

Mr. Samuel Borries
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Mr. Paul Bucholtz

MDEQ
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Lansing, MI 48933-1502

Ms. Sharon Hanshue MDNR 530 West Allegan Street Lansing, MI 48933-1521

Subject:

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Time-Critical Removal Action – Former Plainwell Impoundment 2009 Q1, Q2, and Q3 Groundwater Sampling Results

Dear Mr. Borries, Mr. Bucholtz, and Ms. Hanshue:

In accordance with the approved Former Plainwell Impoundment Time-Critical Removal Action Design Report (TCRA Design Report; ARCADIS BBL 2007a) and the Supplemental Remedial Investigation/Feasibility Study Work Plan – Morrow Dam to Plainwell Dam (Area 1 SRI/FS Work Plan; ARCADIS BBL 2007b), the Kalamazoo River Study Group (KRSG) installed, monitoring, and sampled fifteen groundwater monitoring wells in the former Plainwell Impoundment in Allegan County, Michigan.

The goals of the groundwater investigation are to:

- Evaluate the potential presence of polychlorinated biphenyls (PCBs) in the groundwater within areas of the former Plainwell Impoundment in which PCBcontaining sediments were, by design, left in place after completion of the TCRA.
- 2. Assess the migration of PCBs (if any) in groundwater to the Kalamazoo River.
- 3. Develop groundwater data that are of adequate quality to support an ecological risk assessment, if appropriate.

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December 9, 2009

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As described in the TCRA Design Report and Area 1 SRI/FS Work Plan, the groundwater monitoring program was designed to include eight quarterly sampling events over a two-year period. Three of the quarterly sampling events are now complete (April, June, and September 2009). PCBs have not been detected in any of the 45 groundwater samples collected by ARCADIS, or any of the 15 split samples collected by the Michigan Department of Environmental Quality (MDEQ).

We believe these results indicate that PCBs are not present in groundwater, and that it is reasonable to conclude groundwater in the former Plainwell Impoundment is not of concern with respect to either potential migration to the Kalamazoo River or potential risks to ecological receptors. If the results of the fourth quarter groundwater samples, which will be collected in December 2009, are consistent with the prior three quarters of data such that these conclusions are further supported, we will submit a request for U.S. Environmental Protection Agency (USEPA) approval to discontinue groundwater sampling at all wells in the former Plainwell Impoundment and permanently abandon the monitoring wells according to applicable MDEQ standards.

Information to support USEPA's consideration of a request to discontinue sampling – including details of the installation, approach, and results available from the first three quarters of sampling – are described below and in the supporting tables, figure, and attachments.

#### Installation of Well Network and Staff Gauges

The locations of the wells and the construction methods used in the field were approved by USEPA and MDEQ and are summarized in a March 4, 2009 letter (Cowin 2009). Pilot soil borings were drilled between November 10 – November 17, 2008, and a network of 15 monitoring wells (MW-1 through MW-15) was installed between March 2 and March 27, 2009. The soil borings and well installations were performed by Mateco Drilling Company under the observation of ARCADIS. Following installation, Mateco developed the wells to remove fine-grained particles that remained in the wells and re-establish the natural hydraulic flow conditions. The locations of the wells are shown on Figure 1. Well construction notes and logs are included in Attachments 1 and 2, respectively.

In addition to the well network, five staff gauges (SG-1 to SG-5) were installed to monitor surface water elevations within the Kalamazoo River. Staff gauges were mounted on fixed structures. Surface water elevation measurements were obtained to track seasonal variability. The locations of the staff gauges are shown on Figure 1.

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The horizontal and vertical coordinates of the monitoring wells and staff gauges, as well as the elevation of the top of each staff gauge and its zero point, were surveyed by a Michigan-registered surveyor and incorporated into the GIS database for the project. The coordinates for each well and gauge are listed in Table 1.

#### **Groundwater Monitoring Approach**

Groundwater monitoring was scheduled to be conducted for eight quarterly sampling events over a two-year period. To date, ARCADIS has performed three quarterly sampling events, and the fourth will be conducted in December 2009. Prior to each sampling event, groundwater and surface water elevations are monitored for a period of two weeks to verify that water is flowing to the river. Data from the first three sampling events are tabulated in Table 2.

Groundwater and surface water samples were collected during the weeks of April 13, June 29, and September 21, 2009 (the fourth round of sampling is scheduled for the week of December 14, 2009). Sampling logs are included in Attachment 3. Groundwater samples were collected using ultra-low flow sampling techniques. Surface water samples were collected from the river within the former Plainwell Impoundment on the first day and last day of quarterly groundwater sampling activities. Surface water samples were collected near SG-5 (see Figure 1) during each groundwater monitoring event.

A total of 45 groundwater samples (excluding duplicate samples) were collected by ARCADIS. All samples were submitted to Test America Labs in Burlington, Vermont for the following analyses (sample analytical methods to be consistent with the *Multi-Area Quality Assurance Project Plan for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Revision 1* [Multi-Area QAPP, ARCADIS 2009]):

- Total PCBs by Aroclor
- Total Organic Carbon
- Total Dissolved Solids and Total Suspended Solids
- Chloride, Sulfate, Alkalinity, Sodium, Potassium, Magnesium, and Calcium

Consistent with the Multi-Area QAPP, one blind duplicate sample was collected for every 10 samples of each sample matrix for all analytical parameters, and one matrix spike/matrix spike duplicate sample was collected for every 20 samples analyzed for PCBs.

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MDEQ also collected 15 split samples – these samples were submitted to Northeast Analytical Labs in Detroit, Michigan for PCB analysis. MDEQ samples were not analyzed for inorganic constituents. MDEQ's validated split sample PCB results were sent to ARCADIS on August 10 and November 25, 2009 (Santini 2009a and 2009b).

#### **Results of First Three Quarters of Groundwater Sampling**

PCBs were not detected in any of the groundwater samples collected by ARCADIS or MDEQ at quantitation limits ranging from 0.025 micrograms per liter ( $\mu$ g/L) to 0.052  $\mu$ g/L (the quantitation limit used by Northeast Analytical Labs was 0.025  $\mu$ g/L, while the quantitation limit at Test America Labs ranged from 0.047 to 0.052  $\mu$ g/L).

PCB analytical results for all samples (including MDEQ's split samples) are summarized in Table 3, and analytical results for inorganic constituents are summarized in Table 4. Full validation packages for the samples collected by ARCADIS are included in Attachment 4, and copies of analytical reports for MDEQ samples are included in Attachment 5.

#### Reporting of Fourth Quarter Groundwater Sampling Results

We appreciate your consideration of this matter. Results of the fourth round of sampling and analysis to be conducted in December 2009 will be communicated to USEPA and MDEQ when they are available, which we anticipate in January 2010.

Following receipt of the fourth quarter sampling results, it is our hope that USEPA would address a request to discontinue groundwater sampling in advance of needing to arrange for water level monitoring that would otherwise be scheduled in February or March for the first quarter 2010 sampling round. This letter is provided now to facilitate USEPA's early consideration of this issue. If you have any questions, please do not hesitate to contact us.

Sincerely,

**ARCADIS** 

Stephen Garbaciak Jr., P.E.

Stephen Harbare

Vice President

/pt

**Enclosures** 

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#### Copies:

James Saric, USEPA
Jeff Keiser, CH2M Hill
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Douglas K. Cowin, P.G., ARCADIS
Martin Lebo, Weyerhaeuser Company
Kathy Huibregtse, RMT Inc.
Richard Gay, Weyerhaeuser Company

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#### **Tables**

- Table 1 Groundwater and Surface Water Readings
- Table 2 Groundwater and Surface Water Elevations
- Table 3 Summary of PCB Samples Collected and Data Received through November 2009
- Table 4 Summary of Inorganic Samples Collected and Data Received through November 2009

### **Figure**

Figure 1 – Groundwater Monitoring Well Location Map

### Attachments (electronic only - included on attached CD)

Attachment 1 – Groundwater Monitoring Well Construction Field Notes

Attachment 2 – Groundwater Monitoring Well Construction Logs

Attachment 3 – Groundwater and Surface Water Sampling Logs

Attachment 4 – Validation Packages

Attachment 5 – Analytical Reports for MDEQ Split Samples

#### References

- ARCADIS BBL. 2007a. Former Plainwell Impoundment Time-Critical Removal Action Design Report. February 2007.
- ARCADIS BBL. 2007b. Supplemental Remedial Investigation/Feasibility Study Work Plan Morrow Dam to Plainwell (Area 1 SRI/FS Work Plan). February 2007.
- ARCADIS. 2009. Multi-Area Quality Assurance Project Plan for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Revision 1. November 2009.
- Cowin, D. 2009. Letter from Douglas K. Cowin, P.G. (ARCADIS) to Michael Ribordy (USEPA) re: Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Time Critical Removal Action Former Plainwell Impoundment Groundwater Monitoring Well Installation Plan. March 4, 2009.
- Santini, A. 2009a. Electronic transmittal of Plainwell TCRA oversight PCB analytical results for groundwater samples collected in June-July 2009 from Drew Santini, Camp Dresser McKee to Doug Cowin, ARCADIS. August 10, 2009.
- Santini, A. 2009b. Electronic transmittal of Plainwell TCRA oversight PCB analytical results for groundwater samples collected in September 2009 from Drew Santini, Camp Dresser McKee to Doug Cowin, ARCADIS. November 25, 2009.

**Tables** 

# Georgia-Pacific LLC Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Former Plainwell Impoundment TCRA Quarterly Post-Construction Groundwater Monitoring

## <u>Table 1 – Groundwater and Surface Water Readings</u>

	Coord	linates <sup>1</sup>	Reference							Staff Gage	e Water Ele	evations/N	lonitoring	Well Dept	h to Water	,					
Location	Northing	Easting	Elevation <sup>(2,3)</sup>	03.27.09	03.30.09	04.02.09	04.03.09	04.04.09									09.11.09	09.14.09	09.17.09	09.21.09	09.24.09
Staff Gage	J			00.21100	00.00.00	0 1102100	00000		0 1100100			00.10.00		00.20.00	00.20.00	00.00.00			30111100	00:21:00	0012 1100
SG-1	350394.4	12775769.3	-	707.45	707.55	707.65	707.90	708.22	708.18	707.88	707.88	707.25	707.25	708.15	708.18	707.00	706.97	706.93	706.94	706.80	706.92
SG-2	350979.9	12772024.3	-	700.75	701.00	701.20	701.65	702.24	702.28	701.55	701.55	-	-	-	-	699.82	699.79	699.70	699.73	699.50	699.71
SG-3	350360.5	12772101.6	-	703.30	703.30	703.37	703.44	703.85	703.82	703.70	703.55	702.50	702.55	703.50	703.58	-	-	-	-	-	-
SG-4	350988.8	12772385.0	-	701.30	701.55	701.77	702.10	702.62	702.61	702.05	702.08	700.76	700.80	702.46	702.52	700.18	700.17	700.13	700.13	699.93	700.01
SG-5	350076.1	12773475.4	-	702.80	703.00	703.18	703.49	703.88	703.86	703.42	703.40	702.23	702.28	703.68	703.75	701.70	701.70	701.66	701.67	701.48	701.64
Monitoring	Wells																	•			
MW-1	350961.38	12772432.61	708.92	7.25	7.09	6.92	6.72	6.30	6.28	6.64	6.72	7.91	7.86	6.46	6.40	8.46	8.49	8.53	8.55	8.68	8.56
MW-2	350711.55	12772517.19	712.32	10.51	10.37	10.20	9.96	9.54	9.51	9.87	9.96	11.12	11.08	9.68	9.62	11.69	11.72	11.75	11.76	11.88	11.77
MW-3	350339.20	12772701.62	711.66	9.38	9.23	9.05	8.80	8.38	8.35	8.73	8.81	10.01	9.96	8.54	8.47	10.58	10.61	10.65	10.67	10.78	10.67
MW-4	350154.43	12773098.22	713.54	10.79	10.65	10.48	10.26	9.83	9.80	10.05	10.25	11.42	11.37	9.99	9.92	11.99	12.02	12.05	12.06	12.18	12.08
MW-5	350154.29	12773466.74	713.69	10.67	10.52	10.34	10.11	9.69	9.67	10.03	10.11	11.27	11.21	9.85	9.79	11.80	11.82	11.86	11.87	12.00	11.88
MW-6	350846.49	12772491.10	712.07	10.41	10.24	10.07	9.90	9.41	9.38	9.74	9.84	11.02	10.96	9.56	9.49	11.55	11.60	11.63	11.64	11.76	11.65
MW-7	350555.17	12772534.59	712.85	10.85	10.69	10.52	10.29	9.85	9.82	10.20	10.27	11.46	11.41	10.00	9.93	12.02	12.05	12.09	12.10	12.22	12.11
MW-8	350171.40	12772825.18	711.85	9.41	9.25	9.07	8.83	8.38	8.36	8.75	8.83	10.05	10.00	8.57	8.50	10.65	10.67	10.71	10.72	10.86	10.73
MW-9	350900.48	12773169.10	717.09	14.21	14.13	14.02	13.90	13.52	13.44	13.63	13.81	14.90	14.84	13.67	13.58	15.42	15.46	15.49	15.53	15.58	15.55
MW-10	350302.97	12774069.99	712.72	8.18	8.03	7.89	7.65	7.30	7.28	7.60	7.67	8.76	8.71	7.44	8.39	9.25	9.31	9.35	9.36	9.48	9.39
MW-11	350789.24	12774553.73	712.38	7.33	7.20	7.05	6.82	6.45	6.42	6.75	6.83	7.85	7.82	6.57	6.50	8.26	8.31	8.35	8.36	8.46	8.38
MW-12	350726.89	12775210.90	715.35	9.07	8.95	8.85	8.54	8.25	8.25	8.57	8.62	9.62	9.58	8.34	8.33	10.12	10.07	10.12	10.13	10.23	10.15
MW-13	350420.23	12774429.71	714.36	8.93	8.82	8.68	8.45	8.12	8.09	8.37	8.47	9.47	9.43	8.24	8.17	9.93	9.99	10.02	10.05	10.13	10.08
MW-14	350664.31	12774948.40	712.45	6.75	6.62	6.47	6.23	5.89	5.86	6.17	6.26	7.23	7.18	6.00	5.94	7.66	7.71	7.74	7.76	7.85	7.80
MW-15	350412.99	12774893.18	713.83	7.72	7.64	7.50	7.30	7.00	6.95	7.19	7.31	8.27	8.22	7.12	7.05	8.74	8.79	8.82	8.85	8.92	8.89

#### Notes

<sup>&</sup>lt;sup>1</sup> Coordinates are based on the North American Datum of 1983, Michigan South Zone.

<sup>&</sup>lt;sup>2</sup> Water elevations at staff gages are based on the National Geodetic Vertical Datum of 1929.

<sup>&</sup>lt;sup>3</sup> Monitoring well depth to groundwater measured in feet. Elevation of the top of the well's inner casing was used as reference.

#### Georgia-Pacific LLC

# Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Former Plainwell Impoundment TCRA Quarterly Post-Construction Groundwater Monitoring

#### Table 2 – Groundwater and Surface Water Elevations

								Water Le	vel Elevati	ion / Date							
Location	03.27.09	03.30.09	04.02.09	04.03.09	04.05.09	04.13.09	04.17.09	06.16.09	06.18.09	06.23.09	06.25.09	09.08.09	09.11.09	09.14.09	09.17.09	09.21.09	09.24.09
Staff Gages																	
SG-1	707.45	707.55	707.65	707.90	708.18	707.88	707.88	707.25	707.25	708.15	708.18	707.00	706.97	706.93	706.94	706.80	706.92
SG-2	700.75	701.00	701.20	701.65	702.28	701.55	701.55	-	-	-	-	699.82	699.79	699.70	699.73	699.50	699.71
SG-3	703.30	703.30	703.37	703.44	703.82	703.70	703.55	702.50	702.55	703.50	703.58	-	-	-	-	-	-
SG-4	701.30	701.55	701.77	702.10	702.61	702.05	702.08	700.76	700.80	702.46	702.52	700.18	700.17	700.13	700.13	699.93	700.01
SG-5	702.80	703.00	703.18	703.49	703.86	703.42	703.40	702.23	702.28	703.68	703.75	701.70	701.70	701.66	701.67	701.48	701.64
Monitoring Wells																	
MW-1	701.67	701.83	702.00	702.20	702.64	702.28	702.20	701.01	701.06	702.46	702.52	700.46	700.43	700.39	700.37	700.24	700.36
MW-2	701.81	701.95	702.12	702.36	702.81	702.45	702.36	701.20	701.24	702.64	702.70	700.63	700.60	700.57	700.56	700.44	700.55
MW-3	702.28	702.43	702.61	702.86	703.31	702.93	702.85	701.65	701.70	703.12	703.19	701.08	701.05	701.01	700.99	700.88	700.99
MW-4	702.75	702.89	703.06	703.28	703.74	703.49	703.29	702.12	702.17	703.55	703.62	701.55	701.52	701.49	701.48	701.36	701.46
MW-5	703.02	703.17	703.35	703.58	704.02	703.66	703.58	702.42	702.48	703.84	703.90	701.89	701.87	701.83	701.82	701.69	701.81
MW-6	701.66	701.83	702.00	702.17	702.69	702.33	702.23	701.05	701.11	702.51	702.58	700.52	700.47	700.44	700.43	700.31	700.42
MW-7	702.00	702.16	702.33	702.56	703.03	702.65	702.58	701.39	701.44	702.85	702.92	700.83	700.80	700.76	700.75	700.63	700.74
MW-8	702.44	702.60	702.78	703.02	703.49	703.10	703.02	701.80	701.85	703.28	703.35	701.20	701.18	701.14	701.13	700.99	701.12
MW-9	702.88	702.96	703.07	703.19	703.65	703.46	703.28	702.19	702.25	703.42	703.51	701.67	701.63	701.60	701.56	701.51	701.54
MW-10	704.54	704.69	704.83	705.07	705.44	705.12	705.05	703.96	704.01	705.28	704.33	703.47	703.41	703.37	703.36	703.24	703.33
MW-11	705.05	705.18	705.33	705.56	705.96	705.63	705.55	704.53	704.56	705.81	705.88	704.12	704.07	704.03	704.02	703.92	704.00
MW-12	706.28	706.40	706.50	706.81	707.10	706.78	706.73	705.73	705.77	707.01	707.02	705.23	705.28	705.23	705.22	705.12	705.20
MW-13	705.43	705.54	705.68	705.91	706.27	705.99	705.89	704.89	704.93	706.12	706.19	704.43	704.37	704.34	704.31	704.23	704.28
MW-14	705.70	705.83	705.98	706.22	706.59	706.28	706.19	705.22	705.27	706.45	706.51	704.79	704.74	704.71	704.69	704.60	704.65
MW-15	MW-15 706.11 706.19 706.33 706.53 706.88 706.64 706.52 705.56 705.61 706.71 706.78 705.09 705.04 705.01 704.98 704.91 704.94																
Groundwater - Surf	ace Water	Gradients	(ft/ft) (pos	itive gradi	ent indica	tes ground	lwater flov	v to river)									
MW-5 - SG-5	0.22	0.17	0.17	0.09	0.16	0.24	0.18	0.19	0.20	0.16	0.15	0.19	0.17	0.17	0.15	0.21	0.17
MW-1 - SG-4	0.37	0.28	0.23	0.10	0.03	0.23	0.12	0.25	0.26	0.00	0.00	0.28	0.26	0.26	0.24	0.31	0.35

#### Notes:

Wells installed during the weeks of February 23, March 2, March 9, 2009.

Reference elevations collected on March 24, 2009.

Staff gages installed during the week of March 23, 2009.

Wells developed during the week of March 30, 2009.

Staff gauge SG-2 was damaged by a high flow event in the River and was not available for the June 2009 sampling event. It was replaced and re-surveyed prior to the September 2009 sampling event.

Staff gauge SG-3 was not read during the September or December 2009 sampling events because ARCADIS did not have property to the private property where SG-3 is located.

# Georgia-Pacific LLC Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Former Plainwell Impoundment TCRA Quarterly Post-Construction Groundwater Monitoring

## Table 3 — Summary of PCB Samples Collected and Data Received through November 2009

Commis					Pa	rameter, Unit, a	nd Concentration	on		
Sample Location	Date	Sample ID	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCB
Location			μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
				Groundwater Su	rface Water Interfa	ce Criteria & RBSLs	1			
			NA	NA	NA	NA	NA	NA	NA	0.2
					Groundwater Sam	ples				
	4/16/2009	TS40014 [TS40015]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]
MW-1	7/1/2009	TS40032 <sup>2</sup>	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
IVIVV-1	7/1/2009	PGW-MW1-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	9/22/2009	TS40042	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
	4/16/2009	TS40012	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
MW-2	7/1/2009	TS40029	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
	9/22/2009	TS40039	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
	4/15/2009	TS40010	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
MW-3	7/1/2009	TS40027 <sup>2</sup>	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
10100-5	7/1/2009	PGW-MW3-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	9/22/2009	TS40037	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	4/15/2009	TS40007	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
MW-4	6/30/2009	TS40025	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
10100-4	9/21/2009	TS40035 <sup>2</sup>	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
	9/21/2009	PGW-MW4-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	4/15/2009	TS40008	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
MW-5	6/30/2009	TS40024	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
IVIVV-5	9/21/2009	TS40034 <sup>2</sup>	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
	9/21/2009	PGW-MW5-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	4/16/2009	TS40013	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
MW-6	7/1/2009	TS40030 <sup>2</sup> [TS40031]	0.049 U [0.051 U]	0.049 U [0.051 U]	0.049 U [0.051 U]	0.049 U [0.051 U]	0.049 U [0.051 U]	0.049 U [0.051 U]		0.049 U [0.051 U]
10100-0	6/30/2009	PGW-MW6-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	9/22/2009	TS40040	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	4/15/2009	TS40011	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
MW-7	7/1/2009	TS40028	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	9/22/2009	TS40038 <sup>2</sup>	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
	9/22/2009	PGW-MW7-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	4/15/2009	TS40009	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
MW-8	7/1/2009	TS40026	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
	9/21/2009	TS40036	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	4/17/2009	TS40016	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
MW-9	7/2/2009	TS40033	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
	9/22/2009	TS40041 <sup>2</sup>	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	9/22/2009	PGW-MW9-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	4/14/2009	TS40005	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
	6/30/2009	TS40023 <sup>2</sup>	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
MW-10	6/30/2009	PGW-MW10-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	6/30/2009	PGW-MW10-03	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	9/23/2009	TS40046	0.048 U [0.047 U]	0.048 U [0.047 U]	0.048 U [0.047 U]	0.048 U [0.047 U]	0.048 U [0.047 U]	0.048 U [0.047 U]	0.048 U [0.047 U]	0.048 U [0.047 U]

See page 2 for notes.

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#### Table 3 — Summary of PCB Samples Collected and Data Received through November 2009

Sample					Pa	rameter, Unit, a	nd Concentrati	on		
Sample Location	Date	Sample ID	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCB
Location			μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
				Groundwater Su	rface Water Interfa	ce Criteria & RBSLs	1			
			NA	NA	NA	NA	NA	NA	NA	0.2
				Gro	undwater Samples	(cont'd)				
	4/14/2009	TS40002 [TS40003]	0.048 U [0.049 U]	0.048 U [0.049 U]	0.048 U [0.049 U]	0.048 U [0.049 U]	0.048 U [0.049 U]	0.048 U [0.049 U]	0.048 U [0.049 U]	0.048 U [0.049 U]
MW-11	6/29/2009	TS40019	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
10100-11	9/23/2009	TS40044 <sup>2</sup>	0.047 U [0.048 U]	0.047 U [0.048 U]	0.047 U [0.048 U]	0.047 U [0.048 U]	0.047 U [0.048 U]	0.047 U [0.048 U]	0.047 U [0.048 U]	0.047 U [0.048 U]
	9/23/2009	PGW-MW11-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	4/13/2009	TS40000	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
	6/29/2009	TS40017 <sup>2</sup>	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
MW-12	6/29/2009	PGW-MW12-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	6/29/2009	PGW-MW12-02	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	9/23/2009	TS40043	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	4/14/2009	TS40004	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
MW-13	6/30/2009	TS40020 [TS40021]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]
10100-13	9/23/2009	TS40048 <sup>2</sup>	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
	9/23/2009	PGW-MW13-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	4/13/2009	TS40001	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
MW-14	6/29/2009	TS40018	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
10100-14	9/24/2009	TS40050 <sup>2</sup>	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
	9/24/2009	PGW-MW14-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
	4/14/2009	TS40006	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
MW-15	6/30/2009	TS40022	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
10100-15	9/24/2009	TS40049 <sup>2</sup>	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
	9/24/2009	PGW-MW15-01	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
					Surface Water Sam	ples				
	4/13/2009	TS31000	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	4/17/2009	TS31001 [TS31002]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.027 J [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.027 J [0.048 U]
SG-5	6/29/2009	TS31003	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
36-3	7/2/2009	TS31004 [TS31005]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]	0.048 U [0.048 U]
	9/21/2009	TS31006	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
	9/24/2009	TS31007 [TS31008]	0.051 U [0.050 U]	0.051 U [0.050 U]	0.051 U [0.050 U]	0.051 U [0.050 U]	0.051 U [0.050 U]	0.051 U [0.050 U]	0.051 U [0.050 U]	0.051 U [0.050 U]

#### Notes:

- 1 Analytical results compared to applicable Part 201 generic Groundwater-Surface Water Interface criteria and Part 213 RBSLs provided in MDEQ's RRD Operational Memorandum No. 1 (Table 1, Column #3).
- 2 Split of the sample collected by MDEQ. Samples analyzed by Northeast Analytical Labs.
- \* Duplicate samples are shown in brackets.
- \* Samples analyzed by Test America Laboratory.
- \* MDEQ split samples shown in italics.
- B Indicates an estimated value between the instrument detection limit and the Reporting Limit (RL).
- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- U Compound analyzed but not detected at a concentration above the reporting limit.

MDEQ - Michigan Department of Environmental Quality

MW - Monitoring well

NA - Not Available

PCB - polychlorinated biphenyl

RBSL - Risk Based Screening Level

RRD - Remediation Redevelopment Division

SG - Staff Gauge

μg/L - microgram per liter

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## **Quarterly Post-Construction Groundwater Monitoring**

## Table 4 — Summary of Inorganic Samples Collected and Data Received through November 2009

						Paran	neter, Unit, a	nd Concentr	ation			
Sample Location	Date	Sample ID	Calcium	Magnesium	Potassium	Sodium	Alkalinity	Chloride	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
			μg/L	μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
					Grou	ndwater Sampl	es					
MW-1	4/16/2009	TS40014 [TS40015]	121,000 [129,000]	36,300 [38,600]	3,100 B [3,220 B]	30,000 [31,500]	320 [310]	44 [43]	180 [180]	667 [691]	7.4 [7.5]	15.4 [14.5]
IVIVV - I	7/1/2009	TS40032	129,000	34,100	4,120 B	38,600	320	59	150	653	7.1	14.1
	9/22/2009	TS40042	110,000 J	26,700 J	2,660 B	56,100 J	270	91	86	583	5.2	6.2
	4/16/2009	TS40012	142,000	29,300	1,700 B	53,000	350	93	110	706	6.1	20.1
MW-2	7/1/2009	TS40029	160,000	29,200	2,090 B	58,400	350	110	140	765	5.9	23
	9/22/2009	TS40039	150,000 J	29,300 J	2,010 B	65,500 J	320	120	130	739	5.6	27.7
	4/15/2009	TS40010	121,000	29,500	1,880 B	74,900	320	120	82	665	3.7	21.3
MW-3	7/1/2009	TS40027	122,000	29,900	2,090 B	63,500	320	120	89	712	3.4	13.1
	9/22/2009	TS40037	127,000 J	30,900 J	2,220 B	66,900 J	330	110	81	664	3.9	13.8
	4/15/2009	TS40007	115,000	27,700	2,120 B	73,400	340	130	43	655	4.8	11.7
MW-4	6/30/2009	TS40025	127,000	29,600	2,560 B	74,000	360	140	57 B	708	2.9	16.7
	9/21/2009	TS40035	125,000 J	29,600 J	2,080 B	74,900 J	360	130	57	671	5.4	14
	4/15/2009	TS40008	141,000	32,100	2,810 B	53,800	310	80	130	746	6.7	8.9
MW-5	6/30/2009	TS40024	168,000	35,400	3,140 B	51,000	350	80	170	833	5.7	13.1
	9/21/2009	TS40034	157,000 J	34,400 J	3,060 B	57,500 J	370	91	150	811	7.3	13
	4/16/2009	TS40013	119,000	27,800	1,940 B	68,400	311	110	67	639	4.6	16.4
MW-6	7/1/2009	TS40030 [TS40031]	123,000 [124,000]	25,400 [25,700]	1,930 B [2,170 B]	56,300 [56,600]	300 [300]	110 [100]	94 [96]	615 [613]	5.1 [5]	19.3 [19.5]
	9/22/2009	TS40040	114,000 J	23,200 J	1,770 B	63,400 J	270	120	80	583	5.1	17.1
	4/15/2009	TS40011	174,000	28,300	2,000 B	55,200	360	110	140	777	6.9	12.9
MW-7	7/1/2009	TS40028	141,000	26,500	2,170 B	59,900	340	110	99	671	4.6	11.8
	9/22/2009	TS40038	129,000 J	28,000 J	1,960 B	67,900 J	300	140	88	662	4.3	15.8
	4/15/2009	TS40009	105,000	27,100	2,100 B	80,300	300	160	42	625	2.6	9.1
MW-8	7/1/2009	TS40026	115,000	28,900	2,290 B	88,800	290	170	73	704	1.9	9.5
	9/21/2009	TS40036	104,000 J	26,600 J	2,070 B	94,100 J	280	160	57	637	2.7	8.9
	4/17/2009	TS40016	92,100	24,600	2,000 B	70,900	250	140	35	574	2	6.6
MW-9	7/2/2009	TS40033	90,000	23,100	2,400 B	62,700	250	120	26	515	1.5	6.1
	9/22/2009	TS40041	87,400 J	23,000 J	2,200 B	76,500 J	250	130	28	526	2.1	5.8
	4/14/2009	TS40005	198,000	29,500	1,120 B	51,100	420	89	160	918	16.2	25.4
NAVA / 10	6/30/2009	TS40023	193,000	27,000	1,620 B	48,500	370	89	170	921	12.3	29.4
MW-10	9/23/2009	TS40046	160,000 J [159,000 J]	22,900 J [22,900 J]	1,350 B [1,310 B]	58,300 J [58,300 J]	310 [310]	110 [110]	140 [140]	754 [754]	12.2 [11.9]	19.9 [20.8]

See page 2 for notes.

### Georgia-Pacific LLC

# Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Former Plainwell Impoundment TCRA

## **Quarterly Post-Construction Groundwater Monitoring**

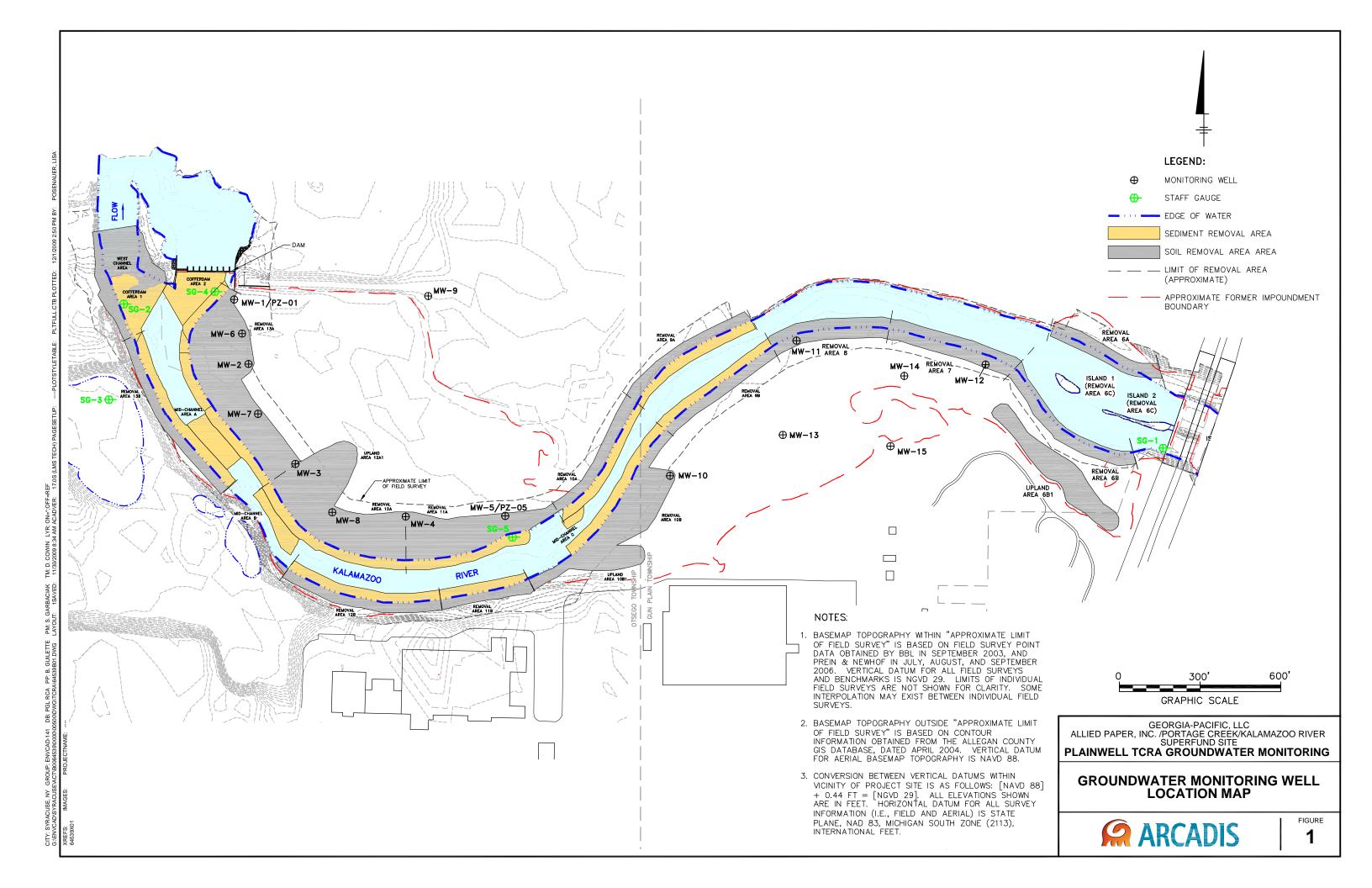
## Table 4 — Summary of Inorganic Samples Collected and Data Received through November 2009

						Paran	neter, Unit, a	nd Concentr	ation			
Sample Location	Date	Sample ID	Calcium	Magnesium	Potassium	Sodium	Alkalinity	Chloride	Sulfate	Total Dissolved Solids	Total Organic Carbon	Total Suspended Solids
			μg/L	μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
					Groundw	ater Samples (d	cont'd)					
	4/14/2009	TS40002 [TS40003]	110,000 [109,000]	27,300 [27,300]	1,930 B [1,760 B]	59,700 [59,200]	310 [300]	100 [98]	64 [66]	619 [610]	4.5 [4.5]	13.6 [14.2]
MW-11	6/29/2009	TS40019	116,000	27,800	2,360 B	56,000	290	110	83	615	3.4	15.4
	9/23/2009	TS40044	105,000 J [103,000 J]	24,900 J [24,500 J]	2,020 B [2,060 B]	53,800 J [53,200 J]	270 [280]	82 [83]	62 [63]	535 [528]	3.7 [4.1]	13.5 [13.5]
	4/13/2009	TS40000	152,000	27,700	3,450 B	11,600	320	28	130	657	20.6	0.6
MW-12	6/29/2009	TS40017	190,000	33,700	7,490	14,300	460	21	100	749	19.5	0.5 U
	9/23/2009	TS40043	98,600 J	23,300 J	2,590 B	24,100 J	290	47	34	437	7.8	5.2
	4/14/2009	TS40004	92,200	21,700	1,600 B	69,500	280	120	29	568	2.5	13.3
MW-13	6/30/2009	TS40020 [TS40021]	93,800 [96,000]	21,400 [22,100]	1,650 B [1,830 B]	52,700 [54,300]	260 [260]	91 [92]	38 [39]	503 [516]	2 [2.2]	11.7 [11.8]
	9/23/2009	TS40048	93,200 J	21,900 J	1,770 B	67,000 J	270	120	27	508	2.5	14
	4/13/2009	TS40001	111,000	23,800	699 B	27,000	210	42	150	553	5.2	17
MW-14	6/29/2009	TS40018	95,300	19,000	5,000 UB	27,700	230	37	87	438	3.2	13.7
	9/24/2009	TS40050	92,100 J	22,100 J	1,180 B	41,000 J	250	66	50	446	3.3	12.9
	4/14/2009	TS40006	92,200	25,700	1,540 B	42,100	280	43	63	495	3.1	10.1
MW-15	6/30/2009	TS40022	99,600	25,700	2,220 B	46,300	280	96	35	506	1.2	9.5
	9/24/2009	TS40049	107,000 J	26,900 J	2,680 B	74,400 J	270	130	55	574	2.5	11
						ce Water Samp						
	4/13/2009	TS31000	73,300	19,600	2,090 B	20,400	200	39	32	361	7.9	7.6
	4/17/2009	TS31001 [TS31002]	75,500 [74,300]	20,600 [20,300]	2,040 B [2,050 B]	22,400 [22,200]	210 [210]	43 [43]	34 B [34]	371 [370]	7.1 [7.5]	7.7 [8]
	6/29/2009	TS31003	79,700	21,000	2,720 B	23,300	220	44	27	386	7.1	15.7
SG-5	7/2/2009	TS31004 [TS31005]	84,800 [83,900]	23,000 [22,800]	2,680 B [2,620 B]	27,500 [27,200]	240 [250]	51 [51]	29 [28]	407 [395]	6.2 [6.3]	14.1 [13.9]
	9/21/2009	TS31006	76,000	24,300	3,020 B	36,400	220	65	33	391	4.7	2.8
	9/24/2009	TS31007 [TS31008]	78,400 J [77,300 J]	24,900 J [24,600 J]	2,810 B [2,710 B]	36,000 J [35,600 J]	230 [230]	66 [61]	35 [32]	396 [407]	4 [4.2]	4.6 [4.5]

#### Notes:

- \* Duplicate samples are shown in brackets.
- \* Samples analyzed by Test America Laboratory.
- B Indicates an estimated value between the instrument detection limit and the Reporting Limit (RL).
- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- U Compound analyzed but not detected at a concentration above the reporting limit.
- MW Monitoring well
- SG Staff Gauge
- mg/L milligram per liter
- ug/L microgram per liter

Figure



# **Attachment 1**

Groundwater Monitoring Well Construction Field Notes

	Wholes A class	3
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		<b>+</b>

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TO Guse of ~ 20 Gripos Barros & Joseph Goods \* ~7-14 HIBH K STUSS/GENERS

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S.G/ SAT	COUNTED .	
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10.0-11.0' OLIVE BU	LIN FOCESMO, LINE FROM GALLINGTO	aeSv.
12-128' SAA.	varily .	74

11/10/08 MW-14 P.W. Boeix RON KIN ACCADIS GARYSWITH, JOHN O'SON COM STEVE BOOM MATECO CINESS LC, TACK MONTOS Rib, 41/4"ID HSA, EQUAMENT 2"x2" SPC, 5000, 30" fall, 14018 ANOHAMMER int (fr) Acc (br) Blows(6") TIME Courses 1539 0-2 2-2-2-2 1543 2-4 1-1-1-1 T 4.5 ACB AVALYSIS 1546 4-6 1-1-1-2 6-8 1552 1-0 4-4-4-4 8-10 1-0 N/A-DIDITIET N/A 1556 0.9 1600 6 10-12 2-3-3-4 1.0' 12-14 1605 2-3-3-4 1608 14-16 0.7' 3-3-3-5 End of Borist @ 16 BGS. Boris Trume GROTES 10 GRASE W/ - 20 GAINOS TYPET DETCHS/5% QUIDIR 6RON \* - 6-16' HIGH K GALEIS/STUSS

11/10/08	Mw-14 P.co Boeisb	
Doreigh .	Descerna	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and so, Tage & Sus True of 643,5	(cars) sens
	TOU SAND, TAKE SID, LODSE, SAM	+
0:35 055 LIGHT GRAY	JCHAJOJSIU, DAYS	
0:55-1.15 DARGERE	and octabic Six True octobics class	i), say
1.15-1.7 Dar Stan	JSIN/ F SAND, TOLARE ORGENICS CHICAN	/ Secretary
nosyart		
2-0'-3.0' 5AS, WIT		
3.0'-3.3' Gray Brown	F SAN, TRACE MOL SAN, TOLAGE SIL	, wo
	is, Tune A Saws, wer	
	BROWN A SAN CITTLE SION THACE	100 Sas
	PALET, SATURATOS * (LIGHTGAY SICTIA	
	Froc Shes, Take From Grave 1, Tax	
	Tarres T, mar more territorial	5/0,
80-90 SA, GASA	200000000000000000000000000000000000000	
	5 70 MAKGAY (2 ~ 8 7 865)	
	From Gule, LITTE LOC Sus, 7	1462517
Stocesars		
12.0-13.0' 554		
14-0'-14-7' SAA		

14/11/08	diameter and the second	Dring	606	•	(DA)
WYATTHE	OUESAST,	40 S			
0630		ie firesale	les TONS	Dellindo AC	710,7163
0730-0800	Salery N	' • '			
0800-095	DX, ES:	RICH (TEAD)	1) 60 TO A	W DSH	ng
	10,4° 7060	Hoo he	DiHES, NU	3" HYDIAN	- sossoe
0830	1	TING HO K			!
***************************************	Betind W	struct.			
0930-1015	1	Par MW-11	, masure	0 MW-13	
1100-1200	TRUME 6	POUT MW-1	3, HINN Pres	sue-SteamCa	en AUGES
* · ·	700L.X6, M	BILIZE MU	2-15		
1200-1300	MATEGO LU	WOH, DOC/	EJ SOUK	o Das C.	A Bours
A	!	o facilitate		1	
***************************************	ASS ME TO	Susur Ma	J-14 (4-6°	): MW-13	(G-B')
****	FOR PEB An	19450 24 M	747		,
1400	1 - 1	MATECO RE		NG WHILL DE	1158 70
	Avois "SNAF	IN Supes	. MATECO 70	TRIE WEST L	xspa)
-	MW-10			,	
1400 - 1500	TRUME 660	NT MW-15,	TEAM CLEW A	icues, Mosici	y 70
	MW-10.				
1530-1800	TRUME 6	מ-דערמ זעסא	PILOT BORE	16 , HIGH AUS	ine Strang
WAARAMATTA TATABA TAYAA MAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Clew Rib / A	wees/100Lis	6, MOBILITY	616/eQup 10	NOC74
UNANAMORE MANUFACTURE AND	Size of Ru	el 10 Cowstw	ve Picor Bol	. <u>365</u>	WATER THE RESIDENCE TO
1930-2045	CAIN	DOUG C.			
	(B)				

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11/11/08		MOTI	Geor Loxus		(BOK)
ARCUS	ROO KUH				
MATECO	6AR/Su	Lr, JOHN	OLSON		
COM S	EX BOOM	i	ELMER	UAD WAGOU	R
EQUIDMENT	1	LCTMIKE			
	Spirspoo	5,30" Fall	1407B AJIC	Hannet	
	, ,	<b>'</b>			
TIME	INT (FT)	Dec (IT)	Blows(6")	(W)	COMMENTS
085le	0-2	1-3	2-3-5-9	8	
0902	2-4	1-6	2-2-2-2	4	Z3'
0909	4-6	0.7'	1-1-1-1	á	
0916	6-8	051	1-1-1-1	2	
0918	870	0.6	3-3-4-6	7	
2590	10-12	1-01	7-4-7-6	1)	
0925	12-14	0.7	3-3-3-3	6	
	14-16 BB				10 TO
				17 700700000000000000000000000000000000	
	- END of	BORWO @ 14	1 BUS. ROL	30 Therein	(Anus)
		1 ~20 0			
	BUTONIE	ř .	,		
				A CONTRACTOR OF THE CONTRACTOR	
<del>y</del> 4.	35'-14',	HOHRE K S	guas/min	as	
77			/		
The second secon					

11/11/08	MW-11 Pro-Boens	(DDA)
TATERIAL	Aesca: pro	
0-0-15 04	uc sean ochwic Six muce ochrico, sup.	
0.15-10.60	ay Siry GIAY, MOIST	
	and from stand, Tought Siers, Loose, Mass	
	my SILV C/AV, Taxe OFFICE, Soy	
2-65-2-91 616	of Begon A Sous, Three Sut moist	
1     1   1   1   1   1   1	K 694/ Siry Ciay, Truce Hybry Debrases Debain	5 110,57
0.000		
40 435 5	A4	
	4 Stown From Sha The CSLA TOKES TO	492
Sie	(S) 547Cerson	
	61776 Sur	
8-0-8-6' Gra	1 Stor Aron Sus THER C Sas, TRAW FORES	ried.
1	LIMITERASITA TRACK TRACE STENS, L	
	2475D. /	
10.0-10.71 5	<u>ad                                     </u>	
		case,
340		
12-0-12-> 6	my sound from savel, Truce from Gravel, Truce	50
3	OR SAMAYOR	
		7

n/n/08		MW-13.	Proof Boen	26	<b>(2)</b>	1/11/08
ARCHOIS	ROW KUHT	1	*			· · · · · · · · · · · · · · · · · · ·
MATE CO:	i	F, JOHO	Cost	<i>t.</i>		, zan
<u>com</u>	1	on west	ł	VAN WAR	iel	0-0-1
Quenta	CME SS	LC TAUCK	MOUTENS RI	6,4/4"ID	HSA, 2"x2"	0-1-0.3
		OS, 30" AM	1, 140 1B A	MHAMMER		
		,				0.3-0.5
TIME	INT (G)	Acc (4)	Blows(6")	_N	Comments	0-55-0-
1012	0-2	1.4'	2-2-1-2	3		0.85 - 1.4
Z501	z-4	0.4	2-2-2-2	4		
1027	4-6	0.7	1-1-1-1	ے		20'-2-
1029	6-8	0.6'	1-1-4-5	5 <b>₹</b> 7.5	1 -14 12-	4.0'-4.
1033	8-10	0.6	4-4-7-9	11	PHOTO 8242	
1038	10-12	0.7'	7-9-14-15	23	P400 8243	60-60
1045	12-14	0.2'	5-6-8-10	14		
1047	14-16	<i>6</i> .9'	3-4-6-6	10		80 86
1051	16-18	0.5'	47-3-5	/0		10.0 - 10
-						
	- Exp of Be	eixe 18's	65. Boeis6 7	Bennis GRa	160 PD	12.0-12.
	-	25 GAI 1005 7		1	1	140'1
			,	, , ,		16-0-1
* 6.0-18	3.0' HIGH	K Grank	/savos			
A. W. W. C.						

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11/11/08		MW-15 F	w Bolist		ØD :
ARLADIS	Low Ki	₩			
MATECO:	GAR/SW	IT JOHN	Sod		
<u>CSM</u>	1 .	i ·	OD ELMER	VAN WAGE	el
EQUIPMENT	CMESS	LC TRACK A	nouves k	6 4/4"ID	454, 2"x2"
			14DIB AUXO		
		,			
TIME	INT (Gr)		Blans (6")		Convers
1313	0-2	1.5"	1-2-2-3	4	
1321	2-4	0.9'	2-2-2-3	4	
1326	4-6	0.51	1-2-3-3	5	
1329	6-8	0.8	3-3-4-4	7	▼>'
5881	8-10	0.8'	3-5-4-4	9	
1336	10-12	1.2'	3-4-4-7	8	
1342	12-14	6.61	3-6-4-4	/0	
1346	14-16	0.41	2-3-3-4	6	\
1351	16-18	0.0'	3-3-3-4	6	
-END of Box	56 @ 18' BG	S. Boens Th	umit Clark	D 70 61402 W	./
~ 25 GAIS					THE PROPERTY OF THE PROPERTY O
* 6.Z'-	18.0' HIGH	a 16 Grace	5/54005		

1/11/08		MW-15 Pro BORNE	
7.77			
0-0-2'		Klasic Sig Tracembauatery	Debuses office Am
		Clayers or trace Forms, Tax	
1.05-1.5'		w I Sus, The Sit, Days.	
20' -2.35'			
		SAD, THE SID, THE MEN	ul, nois
4.0-45	544, 547	ina768	
	544		
		) from Sus, Line CSus, 7	we from our o,
1 4 4 1. 1. 1	1 1 1 1 1 1	OBS SATURD	
1 1 1 1 1 1	1 1 1 1 1 1	FOC Sus, LITTLE From GULL, 7	THE SIT, SATURTED
10.0 -11.2	544		
	1 1 1 1 1 1	0 Dec 64/e~124/865	
1 1 1 1 1 1	1 1 1 1 1 1 1	Gravel, L'irre Poo Sas, Sarar	MED
16-0-18.6	(تورمورد)		

MW-10 Picor Barist 11/11/08 BA ROD KIND ARCHAIS GRESION, DOWN ODON NATECO. STELL BODY WESTER ELMER LANGUAGNER csu EQUANCET CHESS LC TACK MONTED RIB. 4/4"DA HSA, 2"22" Sphispoors, 30" fail, 140 B ANDHAMMER Blows (6") (NT(FT) Acc(AT) M TIME Corners 1500 1.3' 2-3-4-4 0-2 1-1/12-1 1506 z-4 1.0' X 5 1.0' 1509 4-6 2-1-1-1 2 7-5-13-8 18 N/A 11' 6-8 1514 0.4' 7-5-13-8 8-10 1517 PHOTO 8244 0.8' 7-4-4-7 10-12 1520 1527 6.9" 12-14 4-5-7-9 1529 3-4-4-6 8 14-16 0.71 - Eus of Boeino @ 16 BGS, Bolwo Trumie Glassos To Grice W/~ 20 GAILORS TYPE I POPULAS / 5% BENEVITE GROWT. \* 6.0'-16' How K Conces Sources

nlu/oe	MW-10 Avor Boxis	<b>D</b>
Ivers	Al Descension	
0-0-21	DARCBRAND ORGINE Six, TAME & SUD, TRACE ORGANICS, L	وسط
	Sheet Bland from Sus, Little C Sug Tung from 61	
	744 Sir, 1005, Dangs.	
2.0'-2.35	544	
235-30	Graf Brown Gras is to Dack Gray Sury Cray, Take OLS	DILS (HIGHL)
	Degress) says.	
40-5.0	Dark any Blave & Sons, Touch Little Sio, Touce Siers,	STEWNEY
6-0-7.1'	LIBERT GUY BROWN Sury From Genel, Linne for Sans, L	
	STRINGS & LIGHT GONY CARREOUS DIS COLONION THEOLE	
	NOTRIC ACIO +.	
8.0' - B.4'	SAA, Above becamy DUE TO C Gurey in Tip of State	
0.0-108	LIBHT GUAL BEADO FROM Genel, LITTLE LOC Sons, Take	Sit, SATING
	LIGHT GAY CALCAREOUS SIX TOROUGHOUT, NOTRIC+	
2-0-12-9'	DACK GUY BROWN FOR SAW, LITTLE FOUR GOALES, TAKE S.	ò,
	LOOSE, SATURATION .	
4.0-14.71	SAA	

11/12/08		MW O7 A	Tros Boles		<b>(20)</b>	;	ון או	108	
ARCIDIS	Row Kuss	3							
<u>штесо</u>	_	F, JOHN O	⁄కంచ				L	TER	VAI
CAM ST	eve Boan					,	0-1.	8	GMY
UESTON E	TIMER WAS	WAGNER			-		2.0 -	2.25	' 54x
QUANUT	CMESSE	THEE MO	WIER Rib.	41/4" ZD HS	A, 2"LZ'	_	2:25	3.0	5
	SKITSAM	us, /40/A	somme	e, 30" FAU		Γ	3.05-		ORANE
<del>&lt;</del>						+	4.0 -	7.6	يهحيا
TIME	INT (fr)	Acc (fr)	Blows (6")	يد	Conners	.	6.0	6.4'	on
1045	0-Z	1.8'	3-1-3-3	4				. 6	oriel,
1050	Z-Y	1.5'	2-2-2-2	4		.  -	8-0-1	3.2'	544,
1053	4-6	0.6'	2-2-2-2	4	NO RECOUNTS.	-		17	74@Si
105B	6-8	0.4'	1-2-1-1	3	TRIED 3 SAMO	•	10.0'	11.1	orm
1106	870	0.7'	1-7-1-1	3	`			1	oose s
1/09	10-12	1-1'	2-2-3-3	5			12.0'-	12.7	' Gu
1115	12-14	0.7	2-2-3-4	5	-				SATU
1118	14-16	1.2'	3-4-2-5	6			140.	14.8	6un
									hoose,s
	- End of B	DEIXE 16 18	65. Box 16	Munit Gla	700 70		14.8	15.2	' DA
			ET AND						Loose,
	6ROJ.	,							
							<		-
						-			
	× 6-16	WIGH K	Smas/60gm	19		-		*	WA

11/12/08	MW-07	PILOT BORSO	
INTERVAL		Desce. små	
>-1.8' 6 my sean	Singley,		* مسم
0-275 544 *			
1 7 1 1 1 1 1	11.11	o race Six Loose stys	4+
1	wof Guo,	True S. J. Louse, sup.	
↑	<u>-</u> - -  +  ⋅	and, aso.	
0-6.4' Omoch	leavil Surf	/ from Sus, Large ( Sus, race	for C
Greel, Low			
		se Brain from Sun, Ture & Ge	rel,
True Sur, Lo			
		ist, Touch live for Eurel, Tax	esut,
Loos Sarci	-	<del>┤</del> ┤┼┤┼┤┼	+++
!		us, Tune & Genel, Tune Sir, Low	se,
40-14-8 Guy sea			
		A TULLE/ Lime Lown Games, Truce	Sig
4.8-15.2' DARK Gre	Long Ga	avel, Girry Loc Sus, Tung 50	
hoose, sarch		avel, 2,774 2706 SAD, Tugo 5,0	
	++++#		>
* CUANT TO	DOUBLE O	75e 0 - 3/4'	

12/08		MW-08 +	nor Bolish		<b>R</b>
easis	ROW KUM	<b>)</b>			
Areco_	GARY Swil	T, JOHN O	SOU		
<u>m</u>	STEVE BO	au			
esto-0	EIMER VA	NA GOVER			
your	CMESS	C TACK M	aros Rib	414" IO H	S4, 2"c2
***************************************	Sparspool	5, 14016 A	4 TO HAMIC	2, 30° F411.	
îne_	INT (Sr)	Sec (fr)	Blace (6")	_M	COMMENTS
325	٥-٢	0.7	5-6-4-3	10	
336	2-4	0.3'	2-2-2-2	4	
341	4-6	0.9'	2-2-3-3	5	¥ 6'
343	6-8	0.4'	Z-Z-Z-Z	Ч	
348	8-16	0.9'	1-1-4-6	5	
351	10-12	0.9'	14-10-3-3	/3	
357	12-14	1.01	1-4-5-7	9	
407	14-16	0.6'	2-4-7-9	/1	
41)	16-18	6.9'	4-6-11-9	7	
114	18-20	0.9'	4-5-5-5	<b>1</b> 0	
119	20-22	0.8'	2-2-4-7	4	
127	22-24	0.3'	2-2-3-4	5	
Locateda	10' N of	Stabo Loc	ation (Staku	shouting on	YN Bom)
r., n. el R.	אר פיזר אר	5 Rasiu -a	mnic brown	- 6400	7041

11/12/08	MW-08 Pror BOR.is	Ø
INTERNA!	Asses prod	
0-0.7' OP4X6EB	down from Genel, Some it Sus/Sior, Tour	170C
	ace cray, Derce, Surgo Caccess Road water	i)
2.0 - 2.3 544		
	May Sing Clay, Trasce Octobers (Poors), Dans	
	Edward Sand, Time wood Sand Tower Gland, Taxosis, a Bedown Siry from Sand, Little from Grad, Loose, Str	
30-84' 544		un/as
	On It She, There ento Sue Tane Sit, SATEUTOD	
	of Francisco Acis massirey +)	,
	on from Sus, Love from Canel, mas Sui, sources	
	20 f Sus, Tamesir, Springs	
	Dist to Dex GuyBean from Sno, Little C. Sus, Time	Don.
	THE S. IT, SATURDED BURNAMIN CHANGE ~ 125 365	
	in From Suns time (Sus, Time From Genel, Trace S. o., S I from Genel Lorre from Sus, Time S. o., Loose, Store on	
	from Say, Little from Guel, True Sit, Loose, 5	
	not from our from Engel Trave Sir, Loose, Sor	
20.0-20.8' SAA		
22.0 - 22.3' 544		

1/12/08	MW	-06 f. cor	BORNS		<b>€</b>
ARCADIS	ROW KIM	9			
<i>MATECO</i>	GARY Swid	, JOHN O/S	<b>100</b>		
<u>on</u>	STEVE BOO	m <u>Dea</u>	Axs.		
vesnos	EIMER U	IN WHENE	e		
anomer	CME 55	C THACK M	avos Rib	4¼"±0 HSA	, 2" = 2'
	SPLITSPOO	æ, <i>140 i</i> 8	ANTOHAM	er, 30" hm)	
TIME	INT CAS	Acc (for)	Blows (6")		COMMENTS
1600	0-2	4-5-5,	1-2-2-2	4	
1607	2-4	2.0'	2-5-5-2	4	
1608	4-6	0.8'	4-5-7-5	12	
1612	6-8	1.2'	9-1-1-1	2	<b>₹</b> 8'
1615	B-10	1.2'	1-1-1-2	2	
1618	10-12	1.6'	4-4-6-10	10	
1625	12-14	1.2'	6-6-9-10	15	
1630	14-16	Z·0'	6-7-9-10		
1634	16-18	1.3'	1-2-2-2	4	
/638	18-20	0.71	1-2-2-2	4	
1641	20-22	0.9'	2-2-4-5	6	
1644	22-24	1.3'	3-3-4-6	7	
	- Ens of L	blub e zy	B65, BOR.	26 Trunig	6lov140 70
	(1400 112 1-	30 (al min	T DORTAIN	/5% Bevre	WING GRA

nlizlob		11W-06	Pio	- SOR.	<b>4</b>	
TYPRI	J I		Desc	فهرم		
0-2.0	GMy Snyc	wy , To	! ! !	! ! ! !	2440 =	
2.0'- 4.0'	544,640 X	L.				1 1 1 1 1
40-45	Olice BROW	2 Sing C	la Ta	ne erba	(د نواسر عاد	
4.5-4.8'	ORLOGERA	o) suc	, 1,000	em grac	1 Trace Sic	TIWET
60-22	' ORWEL BED	wo from	1540	Tures	ir sarce	MED .
8.0'-92'	1     !			-		
10-0-11.6	SAA					
120-132	SAA					
140'-15						
	o' Gray Brow	17 Frocs	5000	a Eman	Green Lac	50 54-
	3' Gray Bro					
18.0'-18.					1 600 11/2	-0C <b>R</b> , 3470437
20.0 - 20		3/2			For Gise	1,111111
		1 1 1	1   1	, ,,,,,,,,	FRA GIGI	el,
730 2	7005e, SA 33 SAA	حرورها				
22.0 - 0	JJ JAM					
			4		++++	+
-						+P++

MW-02 Aur Boeis 11/13/08 W LOO KIND ARCADIS MATECO GARY Swift, JANN 01500 STEVE BOOM com EIMER USW WAEDER EPA MICE WESTED CNESS LC THICK MONTED RID, 44 ED HSA, Z"EZ" SPLITSPOOS, 14018 AUTONAMILE, 30" FAII Acc(4) Blows(6") INT (A) TIME Commans 0956 0-2 2.0 z 1-1-1-1 ¥ 31 2-1-1-2 1.7' 1007 2-4 4-6 1.0 5-9-13-12 1004 6-8 0.7' 1018 5-9-11-17 8-10 0.4' 6 1501 10-4-2-2 0.2' 3-3-5-5 1025 18-12 0.4' 1031 41-51 20 12-12-8-7 1.51 14-16 7-7-7-12 1035 55 81-51-01-5 16-18 1.0' 1047 0.8' 7-8-10-10 18 18-20 1051 - END of BORYGC 20' BGS, BORING TREMING GROWN TO GRANGE W/ ~ 25 GAIS BURDWIFE QUICKBROUT. A NO PLATFORM CONSTRUCTED YET USE STATE ETCLATED, CHECK NOW Elevation After platform is Bur for potential Screen planned. \* 4-2-20 HIBH K SAMS GALLS

11/13	08	<del></del>	50-WM	Power Breist	<b>2</b>
	INTER	المار	Δ	SCE-Donois	
	1   1				
0-2				I, Tame IN TOROUT	
	U	Amosmas, TAGEC	ebois, m	01st. St Doug	e case
2.0	2.9	SAA # DOV	BIE CASE		
3 3 1	1 1 1	CLIB Blow FS	1 1 1 1	TO SAMUELA	
1 1 :	1 1 1			MR Sir, TMY SI	SUIS CATHLAMA
	1 1 1	2,meic +	,		
	2 'ج./				
7-6-5	-0 -	- 18 MT GIVAY ISLEOUS	s t womsa	D, LITTE C SMO, L	1771e From
<del>                                     </del>		mel, Time Sir,	bose, SATW	400, NITRIC +	
60	6.2'	SAA			
8.0 -	8.4'	DARK GLY From	2 Genel, 2	1) THE LOC SALS T	ang Siv, Strong
10-0	10.21	544			
12-0	'بربرا - '۲.۲۱	CHANGED STO	CSus 4"	TRE From 614el, Tax	8 Size (227)
14.0	_ / \ / \ /	SAA		120 3 10 3 10 1 10 1	(), <sub>(</sub> , (), (), (), (), (), (), (), (), (), ()
11-0	- 13.3	> 21647 GAAY BA	and from	Stro, Truce C SNO,	TRACEFOOM GARREL,
	- <del>                                    </del>	TAME SINT, SATUL	MED.		
16-0	-170	SAA GAASIDG	TO LIBHT 61	of Beau from Sa	D, Three
				Wd e 4 16.5'	
18.0	-18.8			~ Saus, 7/40e f 60	
		TAGE SID, S	1 1 1	1 1 1/ 1 1 1 1 1 1	
			-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
			<del></del>		

11/13/08		MW-01 F	LOT BAR.36	(PZ-01)		11/13/08	Mu
ARCADO	Row Kith						
MATECO	GAR/SWIFT,	JOHN OISON			-	Timeral	,
COM STE				-		0-041	ony Bean Si
Weston El	MER VAN WAGI	æ					percesanos,
EDYDMENT	CNESSLC	TASCK MOW	TO Rib, 4%	به دلا صو" y	2"22"	0-6'-1-2'	GMY BROWDS.
	SNITSAOOS	1401B AUTO	Homuet, 30	"fa11		2.0 - 3.0	SAA N DON
						4.0 -6.0	No Recover 2"
TIME	Mr (fr)	Ac (b)	Blant (6")		COMMENTS	6.0 6.9	DARK BROW ORL
1310	5-0	1-2'	4-4-3-2	7		6-9-7.21	Comp Scow I
1316	2-4	1-0'	2-2-2-3	4	NO BECOVE / Z'	8.0-8.5	544
1319	4-6	0.0'	2-2-5-2	7 16	54000, TZ / 3"	8.5.88	Olive Bears 1
1331	6-8	1.2'	W04-2-3-5	5			Sir Samues
1335	B-10	0.8'	3-5-8-10	/3		10.0 40.41	GASI BEDWILL
1338	10-12	0.4'	5-8-12-9	20		12.0'-12.7'	Drek Gray Lo
1344	12-14	0.7'	10-8-5-5	13		14.0'-14.3'	544
1348	14-16	0.3'	5-5-8-8	13	•	16-0-16.3	Dazie Guy Fr
1353	16-18	0.3'	2-5-2-5	7		18-0'-18-6	
1358	18-20	0.6	2-3-5-5	в		20.0 - 22.0	
1400	Z0-ZZ	NR	5-7-8-11	15		22.0 - 22.5	Guy Brown
1407	22-24	0.5'	7-7-7-7	14			S. S. LOOSE, S.
- 2'zs sc	4 40 PVC 0.01	O"SIOTSCALL	3-13'865	•	,	•	
- 2"20.80	4. 40 PUC RIS	ER ~3' A6S	- 3'865				<u> </u>
- Gusse 4:	5 "610BAIF	LAR DACK"S	Sicili Suppose	c 2-13'86S	(7 BMS)		
	duction by	1 -					
	T. C. L. C. C. C. C. C. C. C. C. C. C. C. C. C.						

11/13/08	Mw-	101 Pro	- Sae:x	(PZ-01)	
Inneval		Cesce, or	1 1 1		
	BROWN Sing				14101 (Rossans
	1 1 1 1 1 1	•       1	1 1 1 1 1 -		From Greel, any
			ince of bur	د لا مرسان د	DOUBLE CASE
1 1 4   1 1   1	A M Dask	1 ! ! !			
1 1 1 7 7 7 7 7	econe/2'/3	Spurs	<u> </u>		
1		1		retsus, uso	<del></del>
6-9-7.2' Gry	Blow FS	بهور رحمد	· Sit, 600	Se, Sarund	<b>)</b>
8.0-8.5 544	+	+   +  -			
8.5.8.8 OUL	Eseave fr	our Gene	1, LITTEL	SAD, TAKE AIR	CCLA, THE
	Strustes.	-   -   -			
10.0 40.41 GAS	1 BROWN Fro	n amel,	Tun Loc	Sao, Samue	76/5
12.0 - 12.7' Dad	K GAN LOC	Sus 14	stone	rel, SATUR	72s.
14.0 - 14.3 54	<u> </u>		+   -	_	
16-0-16.3' Da	ek Guy Fron	namel,	Ture Loo	Ses Smum	A
18-0'-18-6' 5	A4 /	1 1 1			
Z0.0' - 22.0' D	o secovery				
22.0 - 22.5 G	my Brand	From Gen	el, Cirret	roc Sug 724	લ
Si	x, 6005e, 54m	Caren			
					:
					$\supset$
		1. 4. 4. 4	A-4 .d		

11/13/08		MW-04	PILOT BORIS		<b>(B)</b>	- : - :	11/13/08
ARCADIS	Row KIHW					-	
MATECO	GARY SWIG	, JOHNOIS	•>			- :	INTER
<u>GDM</u>	STELL BOOM					- '-	0-6
Westoo	ELMER VA	WAGOER				-	6-0-75
ED, SMEOT	CME 55 1	C THACK MA	WODE Ab,	1/4'50 1/5	4,2"x2"	-	
	SKITSPOOR	5,/4018	4 понатися,	30" LAI)	·	- :	8.6 - 8.0
TIME	wr (br)	Acc (br)	Bows (6")	<u> </u>	Connects		·
1600	0-6'	~ COUTIJUA	S HSA THROUG	N ZZA SiOU	e PMO		10.0 - 10.
1603	6-8'	1.5'	WOH-WOH-1-1	1	¥ 7'	_	
1608	8-10'	0.6	2-2-3-3	5	PHONS BLY)	_	12-0-12-2
1614	10-12'	0.5	1-1-1-13	S	8248	_	12.2-12.9
1620	12-14'	0.9'	4-4-4-6	8		_	14.0-14.3
1622	14-16'	0.7'	4-4-10-6	14		_	14.3-14.7
8501	16-18'	0.6'	6-6-8-11	14		_	160-16-
1635	18-20'	0.5'	15-9-7-12	16		_	16.4-16.6
1644	20-22'	0.3	5-5-8-12	13		_	18.0'- 18.5
- E~	of Boris C	ZZ'BGS , BOA	2.06 Trumie	brand to b	usen		20.0' - 20
i	0 GAILOUS BE						
						_	
<b>*</b> 8	1-22 1411	on IC san	as/Gwels				
w						_	
			MANAGEMENT CONTROL OF THE PARTY			_  -	
						L	

1/13/08	<u>M</u> :	W-04 PILOT BORDO	
INTERVI	1	Besce Arria	
1111.	22A Stove A		
6-0-75			BOUNF SAN, THATE
0 4 - 0 6	5127 LOOSE, 1		
0.0 0.0		•	ecsus, Lorre from
	MITECH SA	OT, LITTLE CALLAGOUS	SILT / SING SIZE GENES
10.0 - 10.5			, Grove Longuel
			s) comme vissie
12.0 - 12.2			VS), VIIIVOS DIPRILA
	<del> - - - - -</del>	Casal Trace Lood San	, Teses io , Saruros.
		Siny Ciay, moseury	
			1 Grues, These Sico Story
160-16-4			
16.4-16.6	DARIE GUY & SA	us, Tura Sir Stras	760
18.0'-18.5	Operat Stavi	) Froctus Aus Aro	m servel, Turce Sir
	SAMMAGO.		
20.0 . 20.	3 SAA		
	_		

11/13/08 DOK ON STE, DESCRIPTION DE CONTRUMNOS OF PLOT WEATHE 0630 BOEN'S. SARAN MEGING 0730 MATECO TAXES UP of 1400 0 April. (500 641) 0800-0900 0590 MATECO CHECKIE ANTOHAMMER ON AGO TRUME GROT MW-OZ DNOT BOE. SO, HIGHRESSILESTERM 1/00-1200 Clew Acces/rocis, masicia romes-01. 1200-1300 Marco Luza 1530 PZ-01 INSTAILLTION CONDUCTO MW-4 from Boeis CROWED. 1715 1730 MYTERO OH SITE ROK Off SITE 1630 - SCAV/ELLIK NOTES

<i>#</i>	/14	1/0	8			Ι	Τ.	Т	Т.	Ţ	Τ.	Ţ		1	24	Y	4	æ	<b>,</b>	T	Т	Т	T	T	1	T	T	7	T	Q	Ð
			<b>K</b>		E	VI E	20)	CA K	s) On	2:	<i>P</i>	4n	e	5	D	LA	را	·	e	10	2	/ce	. 1.	P	سا	JA.	10	L	20	1C	
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11/14/08	MW	05 Prot	Boeist (P	-05)	<b>1</b>	11/14/08 MIO-05 PHOTBORIS (PC-05)
ARCADIS	Row Kitti					
MATECO	GARY Swit	TONO)	Sout -		75	INTERNAL DESCE, AND S
com	STEVE BO	,				0-4' 22A STONE ALD
EGUDMENT		1	HONTED Ric	, 41/4" 201	154,2"x2'	40-46 GAM BEOWN SILVY C/AY, TAKE HIBBA J DEGISES OR BUT CASE
1. 00					411, 3"5,000s	46-4-85 GRAJ BROWN From SUB, Targe Siv, MACK SURIS, MOST
						4.85-5.0° Daric Guy Sury Olay, moist * Daste case
TIME	127 (4)	Ac (fr)	Blows (6")	N	Comments	60-63 Desc buy A Sus, Tuce Sor, saturnes.
0920	0-4'	- (puriou	5 45A 77480V	64 224 St	ove AND	6.3-2-1 Ocic Bean Grapist & CIDAT Guy & Sus, Tang Sir
0926	4-6	1.0'	3-1-1-1	2	NO RECOVER   Z'	Three Siers, Structor (Liber Guy Carcinos, enterin)
0932	6-8	1.1"	3-1-1-1	2 \$7'	TRIED 3"	8.0-8.4 / LIGHT Guy From SAIS, CATEC Sis, Truce Iron Givel,
0940	8%	0.4'	7-9-10-10	19	NO RECOVERY 2" TRIED 3"	Time Siv, Somewas (Lien any Cakeneous, wirein)
0949	10-12	1-1'	4-6-9-13	15	3" PHOTO 3" 8249	10.0 - 11-1 Sasa, no cuses make C Glavel.
8957	12-14	1.4'	23.15-10-8	25	3"	17.0-12.6 Gry Blan From Sus, Tase C Sas Tace Sir, Strang
1001	1-1-16	0.4'	7-10-10-16	20	3"	12-6-129 Gray Soon froc Sus ma from owner, Trues, is someway
/009	16-18	0.8'	5-7-8-8	15	3"	12.9-134 Dork By From and Lorse For Sas Streeting
1016	18-20	0.6	6-7-6-6	13	3.,	14.0-14.41 Dack and C sus not and, Come from Sus, Serveros.
1030	20-22	0.0	6-9-9-9	18	3"	16.0 16.8 Dracaly Froc Sup, 1 me from 6 mel, Strawer
	64.40 PVC	0.010 5	or some 5	1-14 BOS		18.0-18.6 Disiching C Sano no F Gravel, Crope from Sano rouse
- 2" IOS	1	1 -	i	1		m Gravel, Sarturares
	l .			i .	14.0'865 (7846)	20.0-22.0' 20 Respued, LHacy SA4
- 3/8" Bus	1 .	1	1		846)	The state of the s
- 'g BW	DAVINE MULL	U - C 25	<u> </u>	1		
					,	
					· .	
A LANGE CONTRACTOR OF THE STATE						
	1				1	

11/14/08	M	0-03 Pro	Bokwa		(DK)
ARCLANS	Row Kins	3			
MATECO	l .	Fr, John	052	900	
csu	STEVE A	1			
EQUIDMENT	CME 55	LC TACK	uaurus Ri	6,414° IS	HSA, 2"22"
	SPLITSOOD	05,14018	ANONAME	e, 30" FAIL	, 3"5Amas
• •					
TIME	INT (4)	Rec(4)	B/000(6")		Comments
1130	0-3	- (0072000)	בנו בכל אלף	THEOUGH Z	ZA STOVE
1307	3-5	0-9'	2-2-2-2	4	3"
1314	3-7	1.6'	2-2-5-2	4	3.,
1317	. 7-9	1.3'	2-4-7-9	// <b>₹</b> 8'	3"
1325	9-11	0.6'	4-7-11-12	18	3''
1,328	11-13	1.27	6-6-8	12	3 "
1336	13-15	1.1'.	4-5-5-7	10	3"
1341	15-17	1.0'	6-9-12-20	21	3′
1348	17-19	1.3.'	4-5-8-8	13	3 "
1353	19-21	1.2'	6-9-11-13	20	3''
1402	21-23	1.3'	10-11-14-20	25	3"
-	end of Boe	26 e 23' Be			ro\
	o Grase We				
× 9-	23' HOA	K SAUSS (	pavel		
			T 1000 T		
			***************************************		
	.1		I		

11/14/08	Mw-03	Pror Boxins	
Inexal		Desce, prod	
0-3 224	STONE		
3.0-3.4 2ZA	STOVE		
3.4-3.5' DARE BR	ن. وی ۱۹۸۵ دیدو	.	
3-5-3-9' ony Bra	w Swy CIA	y ruce oxbrisis, up,	ST & DOLSK CASE
5.0'-5.4' Mer sea	waf Sus to	uce Sir, Sarcurgo	
	1 1 7 7 7	TALL SIN, SATURATE	. ۸
7.0'-8.0' Saa			
	42 F Shus, C	TTUS TAKENTOC S	us much Long
Gravel, Sa			
	1-1-1-1	us, Lime MINCSUS, TA	ence fro ( bened,
SATURATED			
	Lof Sug /	STRUTOC Sus, Turce.	for Land Car with
Tusie			
	20 100 5	D, Tag Lon Guel,	LOGGE SHILLIAN
13.0'-14.1' SAA			2000, 2000
	0.12 L 1010 SA		1-00
		ns, Cirra C Sus, Mag	FRE GALLE
17.0' - 17.4' SAA	ω.		
		Suo, Little From 6	uncer, coose
Strice	<del>42</del>		
19.0 ~19.5' SAA	<del>                                     </del>	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + +
1 1 1 1 1 1 1 1 1 1	M. BROWD	FSW, Massir, So	TUMPO !
21.0 12.2 SAR	waleh wake	, Lifte Como, SATORA	tran Saus
21.8-77.3' GRAJ BR	romo C 2 <b>4~D</b> I	And Froc Gravel, Little	FLUIT AND

11/17/08	Λ		PROF BORISE		<b>&amp;</b>
ARCARS	Row Kins				
MATECO	GARY SWI	by, Rob M	trud brow		
EOUPMENT	COME 35 L	CTACK MO	wood Rib,	1/4 30 14	St, Z"xZ"
	sphirspace	B, 140 18 1	4070/44mae,	30 HI	
Time	INT (FT)	Ac(yr)	B/ows(6")	<u>N</u>	corners
0855	0-2	0.6'	2-2-2-3	4	
0859	Z-Y	1.0'	2-2-2-2	4	
0902	4-6	0.6'	2-3-3-4	6	
0907	6-8	1.2'	6-6-11-18	17	
0911	8-10	1.21	10-20-12-9	32	
0916	10-12	1.3'	5-3-3-5	6	<b>▼</b> /2'
0921	12-14	1.0'	4-5-7-12	12	
6926	14-16	1-3'	16-12->-5	19	
0932	16-18	6-7'	13-12-7-7	19	
0936	18-20	1-71	6-6-3-3	9	
0939	20-22	1.71	2-3-6-7	ģ	
0944	22-24	1	4-4-4-7	8	
0949	24-26	ام،	2-2-2-4	4	)
•					1
- END O	f Boring @ 26	' 865. BOXID	Transmit GR	0016D 70 GAAQE	w/ m
	BOND-117E QU				,
* 11-	26 HIGH	K Squos 6	ravel.		

	h	2/	0	В			T				T					A	N	v.	-0	,9			D.	97		Sa	٠.	26				-			[	6	es	<b>3</b>
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3/2/09: 3/17/09 MW-13 (A) ARCADIS ROW KUHN GARYSW. A JACK SMORES con: STEVE BOOM EQUIPMENT: CASE STLC TARCK MOUNTED RIG 121/4" FD 1954, 41/4" ID HEAD, 12/4"ID HEAD PLA, CAT 2678 SKID STEER -10"57801 CASIX GROWED 0-6' BGS W/~35 GANOUS TYPEI portuno/5% Barowin Glar. 3/17/09 MW-13 WELL CONSTRUCTION DETAILS - 2" ID SCH. 40 TYPE 30455 VELWIRD WASP 0.010" SCALED 7.0- 12.0" BLS - 2" ID SH. 40 TYPE 304 SS RISER 3.0' ALS-7.0' BLS - GMSE #1 K: E SICIO SANS, PACK 6.5' 12.0' 865 (3.25 8465) - 10" SEE1 CASING GROVED 0-6.0' B6\$ - 3/8" Berrowing (Hip Seal 4.5'-6.5" BGS - TYPE I PARTIMO/5% BENTONIE GRANT 0-4.5' BGS - SIET PROTECTIVE CASING 3.2' 465 1.8'865

Dainy LOG CONT. Pot Discusses 10 CASIX INSTALLATION DEATH C MW-13 af DOX CONIS STICK of DRIGAT 6' CAS AS DESTA AS GRIGARY ALONSES 1500-1530 MATECO MAGH SHEEMS STOM CHES 12/4"MS4/1000 26, MOSA1 20 10 MAN-13 LOCATION. 1630 MW-13 10" SEE) CASIG INSTRUMENT CONSIDER 1630 Steve Boom (maco oversite) off Sie 1630-1730 MATECO MIGH DRESSING STOR CHANS ACKES/ TOOLIZE, WASHING EQUISMENT, SIE CHANED OASE

3/3/09 Sury . - 5% unsunis 10 30% WEATHE DIK 00 STO , Payone fee pose is 10 " STOCK CAS - 16 0630 INSTAILATIONS. 0715 MATECO / STEVE BOOM ON SITE , MATECO SPACIOS/ When it Four pares TANIBATE SAKA METISG 0730 0800 MATECO MOBES SETS UP @ MW-10 0850 MW-10 CASIS DELIAS - SO- CY AS, MATORO MAND SING to GET HEO CCX SOW. 0938 MATECO BACK FROM GETTING HED MW-10 10" CAS: 16 INSTAILATED COMPLET. 1015 DECON 12/4" ANCRES/ TOOL US, MOBILIE TO MW-11 1015 - 1050 1200 MW-11 10 CASIS INSTAILATIN COMPLETE 1200-1300 MATECO CUTH 1300 MATECO SUPPORT TRUCK ON SITE U/ SUPPLIES (GULL) MIX, SOUS, forms, 5'55 James V Was suns. ./330 MATECO MOSILITES TO MW-14 MW-14 10 CAS: & TUSTAHATION COMPLETE 1445 1445 - 1730 STEAM CHEN ANGERS/ TOOL NO, LOSO US: MOBLINE TO NORTH Sing of KAlamazon River off Sire 1730

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3/3/09: 3/17/09 ROW KUH ARCADIS GAR/ SWIFT, JACK SUSSES MARCO: STEVE BOOM Com: EQUIPMENT: CME 55 LC TANCK MANNERS Rib, 1214 "ES MOR on/ AMB, 4/4" ID MOA, CAY 267B Skin STEER. - 10" STE 1 CASING GROWED 0-4" w/ - 35 GALLOWS TYPE I PORTLAND/ 5/0 Burowite GROW 3/17/09 MW-11 WEIL CONSTRUCTION DETHIS - 2" ED SCH. 40 TYPE 304 SS VER WIRE WARP 0.010" SCREW 5.0-10.0" NS - 2" ID SCH. 40 TYPE 304 SS RISER 3.0' ALS -5:0' BLS - 6MAR # 1 K: & Swin SMADOR 4.5'- 10.0' BLS (2 BAGS) - 10" STEEL CASING GROWED 0-4" BGS - 3/8" BENTOLITE CHIP SEAJ 2.5-4.5" BGS TYAE I ARTUMO/5% BENTONIE GROW 0-2.5' BGS - STEET PROTECTION CASING 3.2 MGS - 1.8 BGS

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3/4/09 DANY LOB overcas to face / Sing, 20% warnes to 40's WEATHER BIC @ FRANCE PLANCE! INSPORMED NEW (NORTH) 0700 for Communios of Mouracis well cas ist INSTALLATIONS. PROPER PAPER WORK. 0815 MATECO Sex up ou PZ-05 for ABAGOVINED. 0830 ES S. : ERM ONSIT TO LOOKE PAO LOURIST TERM WILL CAIL TO COURS. PAD CONTROND, MARCO GUTUB Supplies (CASINA, 18/4" DES HISA, PORTLAND OTT. FROM SOUTH SIDE STAGING ARIA. 0935 MATERO BACK FROM GETTING SUPPLIES PZ-05 ABANDONARY Canpres 1000 MW-5 10" CASSE TUSTAHATTON COMPLETE. 1115 1115 - 1315 MOBE TO MW-4, HIBU PRESSUR STEAM CULTURALES! pooling, mareco buch, TANK you HED MW-4 10" CAS. 36 INSTANTATION COMPLETE 145 1415-HIGH PRESSURS STEAM CHEN ASCUS/ TOOL :36, MOBILITE TO MO-9 1800 MW-9 10" CASIS INSTALLAND COMPUTE 1800-1830 HIGH Presente STEAN CHAN AUGUES / TOOLISE, WINTOR TO Rib/EOUPMENT. 1830 off Sire

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		0-5'B65 w/2406W	IOUS TYPET
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3/11/09 MW	1.454. 0		
311101 1010	7-03 WOI (60)	STRUCTURE DETAILS	
7 70 504.	40 TVAT 30455	NEE WHEE WAS 0.010 SOMEN 6	·5-115'8a
		Piser 3.0'A65-6.5'B65	
		DACIC 6.0-11.5/365 (	3 Baus)
- 10" STEET	CAS 16 0- 5.0'	BGS	
- 3/8" Beuro	WITE CHIP SEAL	4.0'- 6.0' A6S	
- TYPE I A	bercas/5% Be	vrav. # 680- 0-4.0' B6S	
- STEEL PRO	vectus casub -	3.2' 465 - 1.8 365	

3/4/09 P2-05 ABANDAMAN ARCADIS RON KUAN GSA/ Swift, JAUC Suspers Sieve Boom COLDANT: CME 55 LC TACK MOUTOS RIO, 414"IS WEA PZ-05 COUSTRICTED SYDTH: 14 DES I 10'(n) 7'865 - OUGRABOND PT.05 -/ 4/4" 20 HS4 TO 15'865, PULLED WALL Mrg. 215 (10' 0.010" SOU YO Z' PLE SOUW : PUC RER) - Trumie GROUTED BOREHOU W/ ~ 40 GAHOUS TYPE & PORTURA/ 5/0 Amonine GROUT

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3/4/09 : 3/11/09 ROW KUHW Grey Swift JACK Supres Com STEVE BOOM CME 55 LC TMEK MOWNED RIB, 121/4" TO HEA W CLUTCH AVE, Y'Y" IN HISA, CAT 247B SKIN STEER - 10 Story casis 680, res 0.8 465-9.2 865 m/~ 65 641025 Type I berens / 5% Berrang bear. Differ service on 7' DUT TO CORSITE ZONT. ARIJUS TO 7' BGS, SROVE CASISE TO 9.2' Bbs uf Rie Arossurac ( Resuris in 0.8' snewp) 3/11/09 MW-09 WELL CONSTRUTION DETAILS - 2"ID SON. 40 55 0.010" VEE WAYD TYPE 304 SCREW 11.5-16.5'865 - 2"TD SCH. 40 SS RISER 3.0' A65- 11.5' A65 - GMAPE H | K: E SILVER SANDARCE 11.0'-16.5' B65 (2.5 BMG) - 10" STEEL CASNO 0-9.2 BGS - 3/8" BENTODITE CHIA SEA! B.O- 11-0' BES (3/4 BAG) - TYPE I PORTISMO /5% BENTOWING GROUT 0-8.0' BGS - SRE) PROPECTIVE CASI-26 ~ 3.2'A65-1.8' BGS

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3/5/09	3/11/09	MU2-1	) Avor B	R.1-16	RESA
ARCADIS	Ran Kin				
MATECO	GAR/SW	FT, JACK S	ansers		
Con	STEVE B				
Etvipment	CME 55	LC TMCK	MOUNTED RI	6, 41/4" TX	HSA,
5,83	2 x 3" 50	crspoors,	140 18 AVT	ossamme,	30"/41
	12/4" EA	1			
TIME	INT (fr)	Accer)	Blows (6")		COMMENTS
103B	0-Z	1.6	3-3-2-4	5	
1044	2-4	1.6	3-9-5-3	14	
1051	Y-6	2-0'	2-3-3-10	6	₹ 4.3′
1101	6-8	1.0	4->-8-19	15	
1168	8-10	1.0'	4-11-16-16	27	
1118	10-12	0.4'	15-15-12-7	27	
	Mw-01	CAS-16 XVI	74114707		
5%	BENTONITE GR		4.5' w/~ 4	b ballons ty	IC I Poormal
			UPAP 0.010" S	CROEN 5.0'-10	0 R65
	•	1	'AGS - 5.0'BG	į.	
			10.0' BGS	١. ١	
	CAS:36 0-4	1			
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PZ-01 ABANDOOMET 3/5/09 ARCASIS RON KUHO GAB/Swift, JACK-SANGES MARECO: can: STEVE BOOM EQUIPMENT: CAME ST LO TRACK MOUNTED DIS, 4/4" IN HIS PZ-01 CONSTRUCTOD DEPTH: 13' AGS I 9.2' (Mc) 6' BG - OUTRORINO PZ-01 W/ 4/4 D HEA TO 13 BGS. WELL MATERIALS DISTROJED DRIJE OVEDRIJAIS TAMANTE GROUND BORINGE OF ~ 45 COSTIONS TYPE I PORTUNO 15% BENTOWNE GROWT.

3/5/09	- 3/12/09	MW-6	Pro Box.	¥	<b>@</b>
ARCASIS	Row Kurn				
MIRCO	GARY SWU	ir, Jacks	4resces		
can:	STEVE B	20m			
EQu,pmer	- CME 53	- LC TMCK	MOURS RIE	, 4 //v · 'IA	454, 3 ×2
<u> </u>	Spars	, IYDIS AUT	омьяс Нам	uer , 35 " fa	11, 121/1
	1354				
Time .	1NT (b)	Dec(h)	B/ans(6")	N	Commerci
1500-1509	0-3	- (927120	rs 44" 1434	THROUGH Z	A4 Stove PA
1509	3-5	1.3'	19-14-4-4	18	
1516	5-7	1.2'	2-2-2-1	_3	
1535	>-9	1.3	2-2-2-3	7	₹ 7.8'
1540	9-11	1.2'	4-8-11-15	19	
1548	11-13	1.0	20-14-7-6	2)	
3/12/09	mw-6	CASING INS	raliamos ; we	I COUSTRUCT	ON DETAILS
CONSTRUCTION	<b>b)</b>				
- 10"5	eet casing 6	20100 D-	7.4' B65 W	1 ~ 50 641	ING TYPEI
	15% De		1 '		
	THE 304 SS VE	1	1	w 7.9'-12.	1' B65
	40 TYPE 304		1 6		
	K: E SILIUA				6S)
	VITE CHIP SEA				
	berna 15%	,	1	.4'B6S	
	OFFICTIVE CAK	1	1	1	

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3/5/09	: 3/12/09	MW-6	Pro Bee	<i>¥</i>	<b>2</b>
ARCADIS	RON KUNN				
Mirco	GARY SW.	it, JACKS	4resces		
can:	STEVEB	Post			
EQUIPMEN	m cmoss	-LC TMCK	MANNA RI	, 4 //v: +A	454, 3 x2'
·	Spergoons	, IYDIR AUT	омьяс Нам	mer , 35 " fa	11, 12/1 00
× "	HSA				
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Time	INT (H)	Acc(h)	Blows(6")		Comars
1500-1509	0-3	- CONTINUE	rs 44" HSA	THROUGH 2	1 A4 STOWN PAO
1509	3-5	1.3'	19-14-4-4	18	
1516	5-7	1.2'	2-2-2-1	3	
1535	>-9	1.3	2-2-2-3	7	₹ 7.8'
1540	9-11	1.2'	4-8-11-15	19	
1548	11-13	1.0	20-14-7-6	2)	
3/12/09	mw-6	CACLIS INS	ranamino ; we	1 COUSTRUCT	DETAILS
191 CONSTRUCTION	is)				
- 10"5	ree (asing 6	ROMO D-	7.4' B6S w	1~50 641	love TYPEI
	65/5% Ba				
,	7785 304 SS V	3	1	7.9'-12.	1 BUS
	40 THPE 304				
	ki & Silica				<b>65</b> \
	VIE CHIP SEA	•	1	אומים.	
	berus 1 5%	1	1		
- STEEL PA	CONFICTIVE CAS	14 3.2 AL	65 - 1.8 B	<b>&amp;</b>	İ

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3/9/09	3/12/09	Mw-3	PILOT BOR	.>6	<b>6</b>
ARCADIS	ROOK	m			
MATECO	GARY SW	Ar, Jack S	Phases		
CAM:	STEVE B	oom			
EQUIPMENT	CME 55	LC TMCKA	nawres Rib	, 12/4" TO H	51, 4/4"
<i>y</i> . *, . , .	IA HS	, 3 'x2's	corssons,	140 1B AUTO	manic
	HAMME	30" fAII			
TIME	INT (fr)	Aec (br)	Blows(6")		Comers
1445	0-2' -	CONTINUOUS	Y'/Y ED HSA	THAOUGH ZIA	sour pas
1456	2-4'	1.8	3-2-2-2	Y	
1453	4-6'	0.8'	2-2-2-5	4	
1501	6-8'	1-4'	1-1-4-8	5	V 65'
1506	8-10'	0.8'	8-17-12-21	29	
1514	10-12	0-71	12-37-28-39	65	
,	- 10" Stee	1 CASNO GR	0- 4.4	B65 w/~	30 64/1005
			Bensoine 6		
3/12/07	,	II CONSTRUCTIO			
- Z"JO SCN.40				w 6.0-11.0 B	&S
- Z"ID Sus.40	•				
- 6000 #1 K		1		(3 13465)	
- 10" STEEL CA	_	1	:		
- 3/8" Buroui	1		S		
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		.z' A65-1.8'A			

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3/10/09	Exercise Various Assessment	MW-8 P.	or Boeith		(Par)
ARCADIS	Row Kushi				
MATECO:	GARY Swit	JACK SWA	<i>n</i> s	7	
con:	STEVE BOOM		3 . '\		
EQVAMENT:	CME SS	LC TMCK M	aures lis,	12/4"50 14	sa, 4%"
(A) 14	TO HSA, 3	"x2' sping	0005, 140 1A	AUTOMATIC !	gane.
	30" <i>[411</i>				
Time	INIT (Fr)	Acc (h)	B/mus(6")		
0925	0-2'			THROUGH 21	(aments
0927	2-4'	1.7	4-4-5-6	9	AM SAUCTAUS
0931	4-6'	0.8	2-2-2-2	4	
0938	6-8'		2.2.2.2	4	Z 5.8'
0943	B-10°	0.7'	2-2-2.7	4 lives,	compression of
0953	10-12'	1.2'	3-7-9-22	16 6 9-8	raal. (de
1012	12-14"	0.4'	8-49-50/0-2	Ref	
/020	14-16'	0-8'	5-7-9-10	16	
	<b>A</b> 1			~ Sī4	PAGE ANGAS,
1103	8-10	0.2'	WIN- 2-3-3	5 Res	Courser.
v 16	Cn	/h h h /	, ecc. (p. 2)	000 1 30	
	STUCT CASING I PORTUND /			1	
•	DIANNED DUE 1				LOWEL
( PPT /		- NEIBMI OF	١١٩٥٠ م	- 301C- J	
* 50	e 3/12/08.	for mw-8	CONSTRUCTO	ON ACTAINS	
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3/10/09 MW-8 P.LOT BORS 21 AA STOUG DED Green Seaves 5, W C/A) Trace albavies (20005) 13 secures SOAT MOUS Tages Tures in organ & San Consumos # Possisio sus Courac e 3 2' 4.0-4.8' DARK GMAJ DIACK STONY C/AJ TURG ORGANICS (ROWS, CRE) Massissay Soft, Messer. 60.6.5 64 Bean Sing Cay, rance in 100 Sus, parce 01600 , SOFT, MINSY 8.0-8.5 Dock Gry Brown Suy Cry, Tance too Sans, Solo, is as 8.5.8.7' buy slow & SAD (2)70 Sit 12057 10.0'- 10.3 Sa Truce Debutes (nome series) unex any sens for suo a a Carrel and Stir Chi careous sessos no on Ginel, useun Derse SATUROS 120-12.4 Gray Cossic, Some Line San and Loc Genel, Ingering 140'-148 Guy Beaund & Guart, Living moc Grand / from Sus truce Sis & movemy serse, structos 8.0-10.0 SNIFF B-9-8, Come I saw, make so 9.8-10.0 Box. 10 Transa Granto a) + 30 Games Benow RE GROUT

Scores 10.8-15.8,

3/10/09 DAIN LOG 39 FAM. PAIN WEATHER DK, MATECO ON SITE, PROPUR LOR CONTINUED 0730 of MW INSTALLATIONS. THE GATE STREY MEETING Bin Delay 0730-0925 Trumie Grow 15 MW-8 PINO BORING 1030 -POSIC CONTINUES MN-B 10" CASING INSTAURATION & 9.8' 1115 Bles u/ Desto cavis. mang concerne (some som) 1125 S6-5 704.2 MW-8 10 CASIG INSTANATION COMPLETE 1330 1330-1400 HIGH MESSUR STAM CRW AVERS/ TOOLING 1400-1500 MATECO LUNCH 1500 -1540 STEAM CRAW Rib: All TORNE PRIOR TO MONTERISE WELL INSTA1147725 1540-1630 MOSE RIB TO MW-9 LOCATED off Site ( Herry Sais) 1630

3/11/09 De an Site Propre for monoció weil Enstallen SECK Bran / MISTECO ON SITE, MITECO WASHING & DISMAT. MW-09 INSTALLATON COMPLETE 1100-1130 HOLY AUSSIN STEAM CHEW ANGERS/ TOOK, is, MARKIZE TO MW-5 56-5 MISSING/ DESTROYED 1230 MW-05 CONSTRUCTION COMPTER UP TO Seriou to Seal 1230-1330 MATERO LUNCH MUO-05 INSTAILATION COMPLETE 1400-1515 Now Aresone steam Clean Archael took to mobilize to may-4 1645 MW-04 INSTALLATION COMPLETE 1645-1700 HILLA MESSINE STEAM CKIN ADGRES TOOLING, MOBILIZE TO MILD-MW-01 INSTANTING COMPLETE UP TO BENDERIE SEA! 1815 MW-01 INSTALLATION COMPLETE off SIE

3/10/09 DAIN, LOG (A) 39 FAM. PAIN WEATHER DOK, MATECO ON SITE, PREPARE LOR CONTINUATION 0730 of MW. INSTALLATIONS. THE GATE SARRY MEETING lin Dely 0230-0925 Truming GOOT 15 MW-8 PINO BORING 1030 -MIK CONTINUES MIN-B 10" CASING INSTAILABOUR & 9.8' 1115 Bles u/ Dest cavis. many concurren (some som) 1125 S6-5 704.Z MW-8 10 CASIG INSTANTATION COMPLETE 1330 1330-1406 HIGH MESSURE STEAM CLEW ANGRS/ TOOLISE 1400-1500 MATECO LUNCH 1500 -1540 STEAM CRAW Rib: All TORNE PRIOR TO MONTERING WELL INSTALLATINES 1540-1630 MOSE RIB TO MW-9 LOCATED off Site ( Herry Sais) 1630

3/11/09 Bux on Site Propre for monorain well trosposions STOK BOOM / MISTERO ON SITE, MISTERO WASHING & ON DROS. MW-09 INSTALLATOR COMPLETE 1100-1130 HAGH MUSSINE STEAM CHAN AUGUS/ TOOG. is, MADAKLIZE TO MIN-5 56-5 MISSING/ DESTROYED 1230 MW-05 CONSTRUCTION COMPLETE UP TO SECTION TO SEA 1230-1330 MATECO LUNCH MIO-05 INSTALLATION COMPLETE 1400-1515 HIGH AMESSINE 3 TESM CHEM? AVGRES / TOOL TO, AND BILLIZE TO MAD-4 MW-DY INSTALLATION COMPLETE 1645-1700 1416A MESSINE STEAM CKIN A7648/7006.126, MOBILIZE TO MUS-MW-01 INSTANTION Complete up TO Berrowsie Seal 1815 MW-01 INSTALLATION COMPRETE off SIE

3/12/09			1 206		(EX)	3	/13/g	1				D	Airy L	.06	, ,	<del>,</del>	·	······	<del></del>		Ø
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0700	AX & STE			VADOT OF	MONITORNE		07.3	0	BK/		1 1	1 1	1 1	1		1 1	1	1 1		EQ.	بري.
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0230	MATECO/S	TEVE Down	ON SITE.	MATECO WAS	14146																
	FQV. DMB																				
1115	MW-6 IN	SY41141102 Com	Alex																		
1230~1330	MARCO LUN	ÇU																			
1345	MW-2 In	STAILATION CI	mple																		
1520	MW-7 IV																				
		I State (270-2) d																			
-2"x0504.4	0 TYPE 304SS			CRED 10-8-	15.8'865																
	02 YOE 304 CS																			S*	,
- GMOE *1 Ki	6 514 5AM	Δ/Δ4CK 10.3'~	5.8'865	(ZBAGS)													-				
- 10" STEEL CA	Sist 0-5'86	s-10.3'B65	*****																		
- 3/8" Bento	TE CHIP SEAT	8.3'-10.3'B6																			
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745 MW	-3 TNSTAHATI	W Complete																			
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ARCHOIS	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1_			
MATECO:	/	er, Jack S	uses		
COM	STEVE BOO				
EONDMENT		C TMOX MA	1		1
	3"x2' spu	rspoors, 14	DIB AUTOM	Ani HAnnes	30" FAII
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Time .	1	REC (4)	7		COMMONS
1/36	i	NY ID HEA	Į.	1	
1134		0.3'	4-6-10-6	16	₹ 4.5'
	1	1	2-2-2-1	,	
1125	7-9	0.7'	3-4-1-6	5	·
1159	9-11	1.2'	21-21-20-13	41	
- 10	" STEEL CAS.	26 <b>6l</b> avres 0	-3.5'BG W	1-30 GAIL	es TYPET
R	27cms/5%	Berown 620	ω <u>γ.</u>		
3/18 <b>/19</b>	MW-	12 Wellow	Strevends L	DETAILS.	
. '.					
- 2"50 scy.	40 TYPE 304	SS VEC WIRE	WAS 0.010	Screw 4.4	1-9-0'BKS
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3/16/09 DAILY LOS (D) WEATHE SURY 4164 405, LOW 50'S 0500-1100 Travel FROM SYR MY TO PLANNER, ME RIC ON SIE ASUSAN FOR CONTINION MATECO TANK. 16 UP W/ HED, HIEN DRESSURE STEAM CREWING AVERS/ TOO WIS 0900 0930 Hick Se Sue Stram CHAD Muses/ rox. 36, MATECO LUNCH 1215-1315 MW-16 WELL CONDIENCION COMPLETE 1415 X MW-12 10 CASING INSTALLARIN COMPLETE 1030-1100 Hear pressure stern com preces/ 1000006. HILD PRESUR STERM CLOUD ANGES/ TOOK is, MOBILING TO 1415 MW-13 well Corson con Canales 1200-1300 MARECO LWCH 1600 LMW-14 INSTALLATION COLDINE 1500 MW-15 WELL CONSTRUCTION CONSIGNE 1600 -MATECO CONDETES MW Syllace Constations or uperty 1500-1530 HIBH MESSINE STEAM CHEW ADGERS/TOOL Side (AD) GAME! CONCRETE MIX TO STEEL PROTECTE CO. 365 MAGI FASTON MIN-12 ON 3/18/09 TO VET CAS. 16 SET 24 48-46 WHERE GROT HAS SETTIND 1530 - 1700 Sint Change, marco Longia Spoking OLLSINE

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		John Cappy	) two proces	K40 12276:01	eup	Mw+5	9.59	~ 6.59'	
	7					mw-(e	9.29'	n 6.29	
						mw-7	9-70'	~ 6.20'	
VIOLENTE						MW.8	B · 26'	~ 5.26'	10
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							6.50	~ 3.56'	)
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7,	- / ^	/ / .	_	,		mw-13	5.75	~ 7.75	6.
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## **ARCADIS**

## **Attachment 2**

Groundwater Monitoring Well Construction Logs

Date Start/Finish: 3/5/09 and 3/10/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" and 12.25" ID

Rig Type: CME-55 Sampling Method: 3" x 2' Split Spoon

Northing: 350961.4 Easting: 12772432.6 Casing Elevation: 708.9

Borehole Depth: 12' bgs Surface Elevation: 706.1 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-01

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

рертн	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description		Well/Boring Construction
											Locking J-Plug  Steel Protective Casing
	_				3			⊒::±	Park gray-brown Silty CLAY, trace Organics (Roots), moist.		Type I Portland/ 5% Bentonite
	705 -	1	0-2	1.6	2	5	NA				grout 0 to 2.5' bgs 10" Steel casing
-	-	2	2-4	1.6	3 9 5 3	14	NA	••• E	ark gray-black Silty CLAY, soft, slight odor, moist.	to medium	0 to 4.5' bgs  2" ID Type 304 Stainless Steel riser 3' ags to 5' bgs
- 5	_	3	4-6	2.0	2 3 3 10	6	NA		Park gray-brown Silty fine SAND, moderately loose, moist to wet.  Dark gray-black Silty CLAY, moderately soft, moist.  Dilive-brown Silty fine SAND, trace Clay, moderately dense, moist.		Bentonite seal 2.5 to 4.5' bgs
	700 =	4	6-8	1.0	4 7 8 19	15	NA		Dlive-brown fine SAND, trace Silt, trace medium to coarse Sand, wet.  ight gray-brown fine SAND, trace Silt, loose, saturated.  live-brown fine SAND, little fine to coarse Gravel, trace medium to coard, trace Silt, moderately loose, saturated.	/ /	Grade #1 K&E silica sand pack 4.5 to 10' bgs
10	-	5	8-10	1.0	4 11 16 16	27	NA		sray-brown fine to coarse SAND and fine to coarse GRAVEL, trace Si aturated.	Silt, dense,	2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen 5 to 10' bgs
_ 10	695 -	6	10-12	0.4	15 15 12 7	27	NA				
	=										
-	_										
- 15	-										
								Re	emarks: ags = above ground surface; bgs = below	w ground s	urface; NA = Not
					DI		ties		Applicable/Available; AMSL = Above Mea Horizontal Datum: NAD 83, Michigan Sou Vertical Datum: NGVD 1929		vel.

Date Start/Finish: 3/6/09 and 3/12/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" and 12.25" ID

Rig Type: CME-55

Sampling Method: 3" x 2' Split Spoon

Northing: 350711.6 Easting: 12772517.2 Casing Elevation: 712.3

Borehole Depth: 12' bgs Surface Elevation: 709.3 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-02

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description		Well/B Constr	=
7.	-											Locking J-Plug Steel Protective Casing
-	-	NA	NA	NA	NA	NA	NA		o sampling - continuous Hollow Stem Auger through 21AA stone	e pad.		Type I Portland/ 5% Bentonite grout 0 to 4.5' bgs  10" Steel casing 0 to 6' bgs
- -5	05 -	1	4-6	1.6	2 2 2 4	4	NA		ark gray-black TOPSOIL. ray-brown Silty CLAY, moderately soft, trace Organics (Roots),	moist to wet.		2" ID Type 304 Stainless Steel riser 3' ags to 7' bgs
_	-	2	6-8	1.2	2 1 1 3	2	NA	<del></del>	iive-brown fine SAND, trace Silt, loose, wet to saturated. ght gray-brown grading to brown fine SAND, trace Silt, trace she	ells, saturated.		Bentonite seal 4.5 to 6.5' bgs
	00 -	3	8-10	1.1	2 4 6 6	10	NA		ght gray-brown fine SAND, trace Silt, trace shells, saturated.  ght gray-brown fine SAND, grading with some to little fine to coace Silt, trace shells, saturated.	arse Gravel,		2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen 7 to 12' bgs
-10		4	10-12	1.1	5 4 5 10	9	NA		own fine to coarse SAND and fine to coarse GRAVEL, trace Sil llcareous deposition on Gravel, moderately loose, saturated.	it, trace		Grade #1 K&E silica sand pack 6.5 to 12' bgs
- - - 15	- 95 -											
	Colores		AF	RCA	\DI	S	tios	Re	marks: ags = above ground surface; bgs = be Applicable/Available; AMSL = Above Horizontal Datum: NAD 83, Michigan Vertical Datum: NGVD 1929	Mean Sea Le	surface; NA = Not evel.	

Infrastructure, environment, facilities

Date Start/Finish: 3/9/09 and 3/12/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" and 12.25" ID

Rig Type: CME-55 Sampling Method: 3" x 2' Split Spoon

Northing: 350339.2 Easting: 12772701.6 Casing Elevation: 711.7

Borehole Depth: 12' bgs Surface Elevation: 708.8 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-03

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description		Well/Bo Construc	-
_	710 —											Locking J-Plug     Steel Protective Casing
-	-	NA	NA	NA	NA	NA	NA		o sampling - continuous Hollow Stem Auger through 21AA ston			Type I Portland/ 5% Bentonite grout 0 to 3' bgs
-	705 -	1	2-4	1.8	3 2 2 2	4	NA		iray-brown interbedded Silty CLAY and fine SAND, trace shells, loist.  Iray-brown Silty CLAY, trace fine Sand laminations throughout, gray-black, moderately soft, moist.			10" Steel casing 0 to 4.4' bgs      2" ID Type 304 Stainless Steel riser 3' ags to 6' bgs
5	-	2	4-6	0.8	2 2 2 2	4	NA		ark gray-black Silty CLAY, moderately soft, slight odor, moist.  ark gray-black Silty fine SAND, trace Organics (Roots), moist to	o wet.		Bentonite seal 3 to 5.5' bgs
	_	3	6-8	1.4	1 1 4 8	5	NA	L fi	aturated 6.0' - 6.8' bgs.  ight gray-brown Silty fine SAND grading with little fine to coarse ne to coarse Gravel at 7.1' bgs, calcareous deposition prevalent aturated.			
10	700 -	4	8-10	0.8	8 17 12 21	29	NA	tı	ight gray-brown calcareous fine to coarse SAND and fine to coa ace Silt, calcareous deposition prevalent on Gravel, moderately aturated.	arse GRAVEL, v dense,		Grade #1 K&E silica sand pack 5.5 to 11' bgs
_	_	5	10-12	0.7	12 37 28 39	65	NA	0.0.0 0.0.0 0.0.0 0.0.0 0.0.0 0.0.0				Stainless Steel 0.010" VEE wire wrapped screen 6 to 11" bgs
-	- 695 <b>-</b>											
- 15	-											
					DI		ities	Re	emarks: ags = above ground surface; bgs = b Applicable/Available; AMSL = Above Horizontal Datum: NAD 83, Michigan Vertical Datum: NGVD 1929	Mean Sea Le	surface; NA = Not evel.	

Date Start/Finish: 11/13/2008, 3/4/09 and 3/11/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" ID

Rig Type: CME-55

Sampling Method: 2" x 2' Split Spoon

**Northing:** 350154.4 **Easting:** 12773098.2 **Casing Elevation:** 713.5

Borehole Depth: 22' bgs Surface Elevation: 710.7 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-04

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction	
-	-									Locking J-F Steel Prote Casing	-
7.	10 -	NA	NA	NA	NA	NA	NA	No No	sampling - continuous Hollow Stem Auger through 21AA ston	Type I Port 5% Benton grout 0 to 4	iite 1' bgs asing
-	- - -	NA	NA	NA	NA	NA	NA			2" ID Type Stainless Sriser 3' ags 6.5' bgs	304 Steel
5	- 05 <b>-</b>	NA	NA	NA	NA	NA	NA			Bentonite s to 6' bgs	seal 4
	-	1	6-8	1.5	WOH WOH 1	1	NA	Dar	k gray grading to dark gray-brown fine SAND, trace Silt, loose	se, wet.	
	-	2	8-10	0.6	2 2 3 3	5	NA		nt gray-brown fine to medium SAND, little coarse Sand, little fivel, trace Silt, little calcareous Silt/Sand-sized grains, saturate	fine to medium	pack
- 10 - 7	00 -	3	10-12	0.5	1 1 1 13	2	NA	Ligh	it gray calcareous fine to medium SAND, little fine to medium see Sand, trace Silt (calcareous), saturated.	m Gravel, trace 2" ID Type Stainless S 0.010" VEE wrapped st 6.5 to 11.5"	Steel E wire creen
_	-	4	12-14	0.9	4 4 4 6	8	NA		wn fine to medium GRAVEL, trace fine to coarse Sand, trace	e Silt, saturated.	
- 15	95 —	5	14-16	0.7	4 4 10 6	14	NA	Ora	nge-brown Silty CLAY, moderately stiff, moist.  nge-brown fine to coarse SAND and fine to medium GRAVEL  rated.	EL, trace Silt,	
					DI		ties	Ren		below ground surface; NA = Not e Mean Sea Level; WOH = Weight of Hammer. ring drilled on 11/13/08. Well installed 3/4/09 an	nd

Vertical Datum: NGVD 1929

Horizontal Datum: NAD 83, Michigan South Zone

Client: Kalamazoo River Study Group

Site Location: Plainwell, Michigan Well/Boring ID: MW-04

Borehole Depth: 22' bgs

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	_	6	16-18	0.6	6 6 8 11	14	NA	<u> </u>	Orange-brown fine to coarse SAND and fine to medium GRAVEL, trace Silt, saturated.  Dark gray fine SAND, trace Silt, saturated.	
-	-	7	18-20	0.5	15 9 7	16	NA		Orange-brown fine to coarse SAND and fine to medium GRAVEL, trace Silt, saturated.	
<u>-</u> 20	690 —	8	20-22	0.3	5 5 8	13	NA			
— 25 -	- 685 <b>-</b>									
-	-									
- 30	-									
-	680 -									
-	- -									
<del>-</del> 35	675 -									



**Remarks:** ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level; WOH = Weight of Hammer.

Lithologic descriptions from pilot boring drilled on 11/13/08. Well installed 3/4/09 and 3/11/09.

Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

Date Start/Finish: 11/14/2008, 3/4/09 and 3/11/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders Drilling Method: Hollow Stem Auger Auger Size: 4.25" ID

Rig Type: CME-55

Sampling Method: 3" x 2' Split Spoon

Northing: 350154.3 Easting: 12773466.7 Casing Elevation: 713.7

Borehole Depth: 22' bgs Surface Elevation: 710.7 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-05

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEPTH EI EVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction		
-	-								Ste	cking J-Plug el Protective sing	
710	- N	A NA	NA	NA	NA	NA	2	sample - continuous auger through 21AA stone pad.	5% gro 2" 1 Sta rise 6.5"	De I Portland/ Bentonite ut 0 to 4' bgs D Type 304 inless Steel er 3' ags to 'bgs	
- 5 	1	4-6	1.0	3 1 1	2	NA	G	ay-brown Silty CLAY, trace highly degraded Organics, damp. ay-brown fine to medium SAND, trace Silt, trace Shells, moist.  ark gray Silty CLAY, moist.  ark gray fine SAND, trace Silt, saturated.	0 tc	Steel casing 5 5' bgs ntonite seal 4 5' bgs	
	_ 2	6-8	1.1	3 1 1 1	2	NA		ive-brown grading to light gray (calcareous) fine SAND, trace Silt ells, saturated.	It, trace		
	3	8-10	0.4	7 9 10 10	19	NA		ght gray (calcareous) fine to medium SAND, little coarse Sand, tr edium Gravel, trace Silt, saturated.	Grasilio	ade #1 K&E ca sand pack o 11.5' bgs	
- 10 700	7 - 4	10-1	2 1.1	4 6 9	15	NA	A	above, includes trace coarse Gravel.	Sta 0.0	D Type 304 inless Steel 10" VEE wire apped screen to 11.5' bgs	
	- 5	5 12-1	4 1.4	13 23 15 10 8	25	NA	G G Sa D	ay-brown fine to medium SAND, trace coarse Sand, trace Silt, say-brown fine to coarse SAND and fine to medium GRAVEL, tracturated.  Ark gray fine to medium GRAVEL, little fine to coarse Sand, saturated.	ace Silt,		
15 695	- 6	6 14-1	6 0.4	7 10 10 10	20	NA	0.7.4 0.7.4 0.7.4 0.7.4	rk gray coarse SAND and fine GRAVEL, little fine to medium Sa turated.			
Įn.	Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.  No recovery with 2" spoon from 6-10' bgs, used 3" spoon for remaining intervals. Lithology from pilot boring drilled on 11/14/08. Well installed 3/4/09 and 3/11/09.										

Infrastructure, environment, facilities

Vertical Datum: NGVD 1929

Horizontal Datum: NAD 83, Michigan South Zone

Client: Kalamazoo River Study Group

Site Location: Plainwell, Michigan Well/Boring ID: MW-05

Borehole Depth: 22' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	-	7	16-18	0.8	5 7 8 8	15	NA		Dark gray fine to coarse SAND, little fine to medium Gravel, saturated.	
	-	8	18-20	0.6	6 7 6 6	13	NA		Dark gray coarse SAND and fine GRAVEL, little fine to medium Sand, trace medium Gravel, saturated.	
- 20	690 -	9	20-22	0.0	6 9 9	18	NA		No recovery - likely same as above.	
	-									
<b>—</b> 25	- 685 <b>-</b>									
_	-									
-	-									
— 30 -	680 -									
_	-									
- 35	-									



**Remarks:** ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.

No recovery with 2" spoon from 6-10' bgs, used 3" spoon for remaining intervals. Lithology from pilot boring drilled on 11/14/08. Well installed 3/4/09 and 3/11/09.

Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

Date Start/Finish: 3/5/09 and 3/12/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" and 12.25" ID

Rig Type: CME-55 Sampling Method: 3" x 2' Split Spoon

Northing: 350846.5 Easting: 12772491.1 Casing Elevation: 712.1

Borehole Depth: 13' bgs Surface Elevation: 709.2 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-06

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

				1		<u> </u>			
DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
710 -	-								Locking J-Plug  Steel Protective Casing
	NA	NA	NA	NA	NA	NA		No sample - continuous auger through 21AA stone pad.	Type I Portland/ 5% Bentonite grout 0 to 5.4' bgs 2" ID Type 304 Stainless Steel riser 3' ags to
705 -	1	3-5	1.3	19 14 4 4	18	NA		Dark gray Silty CLAY, trace fine Sand, trace Organics (Roots), moist (frozen).	7.9' bgs  10" Steel casing 0 to 7.4' bgs
-	2	5-7	1.2	2 2 2 1	4	NA		Dark gray-brown mixing with dark gray-black Silty CLAY, trace intermittent fine Sand laminations, trace Organics, soft, moist.	Bentonite seal 5.4 to 7.4' bgs
-	3	7-9	1.3	2 2 2 3	4	NA	二: ····	Dark gray-brown fine SAND, little Silt, trace Organics (Roots), moist.	
— 10	4	9-11	1.2	4 8 11 15	19	NA		Gray-brown fine to coarse SAND and fine to coarse GRAVEL, trace Silt, dense, saturated, calcareous deposits on Gravel.	Grade #1 K&E silica sand pack 7.4 to 12.9' bgs
	5	11-13	1.0	20 14 7 6	21	NA		No calcareous deposits 11.0 - 13.0' bgs.	Stainless Steel 0.010" VEE wire wrapped screen 7.9 to 12.9' bgs
- 695 - - 15									
							    	Remarks: ags = above ground surface; bgs = below ground surface; Applicable/Available; AMSL = Above Mean Sea Le	surface; NA = Not evel.
				DI		ties		Horizontal Datum: NAD 83, Michigan South Zone Vertical Datum: NGVD 1929	

Date Start/Finish: 3/9/09 and 3/12/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" and 12.25" ID

Rig Type: CME-55 Sampling Method: 3" x 2' Split Spoon

Northing: 350555.2 Easting: 12772534.6 Casing Elevation: 712.9

Borehole Depth: 12' bgs Surface Elevation: 708.0 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-07

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

<b>DEPTH</b>	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
- 73	10 -									Locking J-Plug  Steel Protective Casing
- 70	-	NA	NA	NA	NA	NA	NA		No sample - continuous auger through 21AA stone pad.	Type I Portland/ 5% Bentonite grout 0 to 4.2' bgs  10" Steel casing 0 to 6.2' bgs  2" ID Type 304 Stainless Steel riser 3' ags to
<b>-</b> -5		1	4-6	1.2	3 3 3 4	6	NA	-: ± -: ± -: ± -: ±	Gray-brown Silty CLAY, trace Organics (Roots), trace very fine Sand, moderately soft, moist.  Dark gray-brown 4.8' - 5.0' bgs.  Dark gray-black Silty CLAY, trace Organics (Roots), trace fine SAND, moist.	6.7' bgs Bentonite seal 4.2 to 6.2' bgs
70		2	6-8	1.6	2 2 2 7	4	NA		Dark Gray-brown fine SAND, little Silt, moist. Saturated at 6.5' bgs.  Light gray-brown fine SAND grading with little medium to coarse SAND, little fine to medium Gravel at 7.4' bgs, trace Silt, trace shells, saturated.	
_	-	3	8-10	1.3	2 3 3 8	6	NA		Light gray-brown fine to coarse SAND and fine to coarse GRAVEL, trace Silt, trace shells, calcareous deposits on Gravel, moderately loose, saturated.  Light gray-brown calcareous fine SAND, little Silt, trace shells, trace medium to coarse Sand, loose, saturated.	Grade #1 K&E silica sand pack 6.2 to 11.7' bgs
- 10 -		4	10-12	1.0	7 8 10 26	18	NA		Light gray-brown calcareous fine to coarse SAND and fine to coarse GRAVEL, trace Silt, moderately dense, saturated. Calcareous deposits prevalent on Gravel.	2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen 6.7 to 11.7" bgs
- 69	95 -									
<del></del> 15										
					DI		ties	F	emarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea  Horizontal Datum: NAD 83, Michigan South Zone Vertical Datum: NGVD 1929	Level.

Date Start/Finish: 3/10/09 and 3/12/09 **Drilling Company: MATECO** 

**Driller's Name:** Gary Swift, Jack Sanders **Drilling Method:** Hollow Stem Auger **Auger Size:** 4.25" and 12.25" ID

Rig Type: CME-55

Sampling Method: 3" x 2' Split Spoon

Northing: 350171.4 Easting: 12772825.2 Casing Elevation: 711.9

Borehole Depth: 16' bgs

Surface Elevation: 708.9 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-08

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEPTH	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
	-								Locking J-Plug  Steel Protective
710	1								Casing
-	- NA	NA	NA	NA	NA	NA		No sample - continuous auger through 21AA stone pad.	Type I Portland/ 5% Bentonite grout 0 to 8.3' bgs 2" ID Type 304 Stainless Steel riser 3' ags to
705	1	2-4	1.7	4 4 5 6	9	NA	) Н: Н: Н: Н:	Gray-brown Silty CLAY, trace Organics (Roots), trace intermittent fine Sand laminations, moderately soft, moist. Possible Sand contact at 3.7' bgs.	10.8' bgs 10' Steel casing 0 to 10.3' bgs
5	_ 2	4-6	0.8	2 2 2 2	4	NA		Dark gray-black Silty CLAY, trace organics (Roots, veg), moderately soft, moist.	
-	3	6-8	0.5	2 2 2 2	4	NA	-: - -: : : -: : : : -: : : :	Gray-brown Silty CLAY, trace medium to coarse Sand, trace Organics, soft, moist.	
700	4	8-10	0.2	WOH 2 3	5	NA	H: H: H:	Dark gray-brown Silty CLAY, trace fine to coarse Sand, soft, moist.  Gray-brown fine SAND, little Silt, moist.	
- 10	+			3			<u>.</u>	Gray-brown fine SAND, little Silt, moist.  Gray-brown fine SAND, little Silt, trace Organics (wood, shells), moist.	Bentonite seal 8.3 to 10.3' bgs
-	5	10-12	1.2	7 9	16	NA		Gray-brown fine to coarse SAND and fine to coarse GRAVEL, trace Silt, calcareous deposition on Gravel, moderately dense, saturated.	Grade #1 K&E
_	6	12-14	0.4	8 49 50/0.2	NA	NA		Gray COBBLE, some fine to coarse Sand and fine to coarse Gravel, saturated.	silica sand pack 10.3 to 15.8' bgs
_ 695 — 15	7	14-16	0.8	5 7 9	16	NA		Gray-brown fine GRAVEL, little medium to coarse Gravel, little fine to coarse Sand, trace Silt, moderately dense, saturated.	2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen 10.8 to 15.8' bgs
						1		Remarks: ags = above ground surface; bgs = below ground a Applicable/Available; AMSL = Above Mean Sea Le	



Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

Date Start/Finish: 11/17/08, 3/4/09 and 3/11/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders Drilling Method: Hollow Stem Auger Auger Size: 4.25" ID

Rig Type: CME-55

Sampling Method: 2" x 2' Split Spoon

Northing: 350900.5 Easting: 12773169.1 Casing Elevation: 717.1

Borehole Depth: 26' bgs

Surface Elevation: 714.3 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-09

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description		Well/Boring Construction
_	715 —										Locking J-Plug  Steel Protective Casing
-	-	1	0-2	0.6	2 2 2 3	4	NA		wn Sandy Organic SILT, trace Organics (Roots, Wood), tree f nple, damp.	Root in tip of	0 2 2 3 4 4 4 4 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
-	-	2	2-4	1.0	2 2 2 2	4	NA		k orange-brown fine SAND, trace medium to coarse Sand, trace Silt, damp.	ace fine Gravel,	Type I Portland/ 5% Bentonite grout 0 to 8' bgs 10" Steel casing 0 to 9.2' bgs
- 5	710 -	3	4-6	0.6	2 3 3 4	6	NA				2" ID Type 304 Stainless Steel riser 3' ags to 11.5' bgs
	-	4	6-8	1.2	6 6 11 18	17	NA		ny-brown fine to medium SAND, little coarse Sand, little fine to vel, trace Silt, damp.	medium	
	705 —	5	8-10	1.2	10 20 12 9	32	NA	As	above, moist to wet at bottom of sample.		
- 10 -	-	6	10-12	1.3	5 3 3 5	6	NA	Ora	inge-brown fine SAND, trace Silt, saturated.  Inge-brown fine to medium SAND, trace coarse Sand, trace find trace Silt, saturated.	ne to medium	Bentonite seal 8 to 11' bgs
-	-	7	12-14	1.0	4 5 7	12	NA	Ora	inge-brown fine to coarse SAND, little fine to medium Gravel, irated.	trace Silt,	Grade #1 K&E silica sand pack 11 to 16.5' bgs
- - 15	700 -	8	14-16	1.3	16 12 7 5	19	NA	Gra	ny-brown fine to medium SAND, little coarse Sand, trace fine C saturated.	Gravel, trace	2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen 11.5 to 16.5' bgs
					DI		ities	Rer	marks: ags = above ground surface; bgs = backpolicable/Available; AMSL = Above Lithologic descriptions from pilot boring 3/11/09.  Horizontal Datum: NAD 83, Michigan	Mean Sea Level.  ng drilled on 11/17/08. \	

Vertical Datum: NGVD 1929

Horizontal Datum: NAD 83, Michigan South Zone

Client: Kalamazoo River Study Group Well/Boring ID: MW-09

Site Location: Plainwell, Michigan Borehole Depth: 26' bgs

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-		9	16-18	0.7	13 12	19	NA		Gray-brown fine to medium SAND, little coarse Sand, trace fine Gravel, trace Silt, saturated.  Gray-brown coarse SAND and fine GRAVEL, trace fine to medium Sand,	
-	-	9	10-10	0.7	7 7	19	INA		saturated.	
-	- 695 <b>-</b>	10	18-20	1.7	6 6 3 3	9	NA		Gray-brown fine to medium SAND, little coarse Sand, trace fine to medium Gravel, loose, saturated.	
- 20	-	11	20-22	1.7	2 3 6 7	9	NA			
-	-	12	22-24	1.7	4 4 4	8	NA			
_ — 25	- 690 <b>-</b> -	13	24-26	1.2	7 2 2 2 2 4	4	NA			
-	_									
-	685 -									
- 30	_									
-	_									
-	-									
-	_									
-	680 —									
35	_									



**Remarks:** ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.

Lithologic descriptions from pilot boring drilled on 11/17/08. Well installed 3/4/09 and 3/11/09.

Horizontal Datum: NAD 83, Michigan South Zone

Date Start/Finish: 11/11/2008, 3/3/09 and 3/17/09

**Drilling Company: MATECO** 

Driller's Name: Gary Swift, John Olson Drilling Method: Hollow Stem Auger

Auger Size: 4.25" ID Rig Type: CME-55

Sampling Method: 2" x 2' Split Spoon

Northing: 350303.0 Easting: 12774070.0 Casing Elevation: 712.7

Borehole Depth: 16' bgs Surface Elevation: 709.7 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-10

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

						1	1			
DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	710 —									Locking J-Plug  Steel Protective Casing
-	_	1	0-2	1.3	2 3 4 4	7	NA		Dark brown Organic SILT, trace fine Sand, trace Organics, damp.  Orange-brown fine to medium SAND, little coarse Sand, trace fine to medium Gravel, trace Silt, loose, damp.	Type I Portland/ 5% Bentonite grout 0 to 2' bgs  2" ID Type 304 Stainless Steel
_	-	2	2-4	1.0	1 1/ 12"	1	NA	±: =:= =:=	Gray-brown grading to dark gray Silty CLAY, trace Organics (highly degraded), damp.	riser 3' ags to 4.5' bgs  Bentonite seal 2 to 4' bgs  10" Steel casing 0 to 4' bgs
-5	705 -	3	4-6	1.0	2 1 1 1	2	NA		Dark gray-brown fine SAND, trace to little Silt, trace Shells, saturated.	Violands
_	_	4	6-8	1.1	NA	NA	NA		Light gray-brown Silty fine to medium GRAVEL, little fine to coarse Sand, loose, saturated. Light gray calcareous discoloration throughout.	Grade #1 K&E silica sand pack 4 to 9.5' bgs
_ 10	700 -	5	8-10	0.4	7 5 13 8	18	NA		As above, poor recovery due to coarse Gravel in tip of shoe.	2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen 4.5 to 9.5" bgs
	-	6	10-12	0.8	7 4 4 7	8	NA		Light gray-brown fine to medium GRAVEL, little fine to coarse Sand, trace Silt, saturated. Light gray calcareous Silt throughout.	
-	-	7	12-14	0.9	4 5 7 9	12	NA		Dark gray-brown fine to coarse SAND, little fine to medium Gravel, trace Silt, loose, saturated.	
15	695 <b>-</b> -	8	14-16	0.7	3 4 4 6	8	NA			
									Remarks: ags = above ground surface; bgs = below ground	surface; NA = Not



ags = above ground surface; bgs = below ground surfa Applicable/Available; AMSL = Above Mean Sea Level.

Lithologic descriptions from pilot boring drilled on 11/11/08. Well installed 3/3/09 and 3/17/09.

Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

Date Start/Finish: 11/11/08, 3/3/09 and 3/17/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" ID

Rig Type: CME-55 Sampling Method: 2" x 2' Split Spoon

Northing: 350789.2 Easting: 12774553.7 Casing Elevation: 712.4

Borehole Depth: 14' bgs Surface Elevation: 709.7 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-11

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description		Well/Bo Constru	-
- 7.	-											Locking J-Plug     Steel Protective     Casing
-	-	1	0-2	1.3	2 3 5 9	8	NA	☐ G	ark brown Organic SILT, trace Organics, damp.  ay Silty CLAY, moist.  bwn fine to medium SAND, trace Shells, loose, moist.			Type I Portland/ 5% Bentonite grout 0 to 2.5' bgs
	-	2	2-4	1.6	2 2 2 2	4	NA	Lig	ay Silty CLAY, trace Organics, damp.  Inth brown fine SAND, trace Silt, moist.  Introduction of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of	st.		10" Steel casing 0 to 4' bgs  Bentonite seal 2.5 to 4.5' bgs
- -5	05 -	3	4-6	0.7	1 1 1 1	2	NA		ay-brown fine to medium SAND, trace coarse Sand, trace Silt, turated.	trace Shells,	<b>*</b>	2" ID Type 304 Stainless Steel riser 3' ags to 5' bgs
	-	4	6-8	0.5	1 1 1 1	2	NA	As	above, Little Silt.			— Grade #1 K&E silica sand pack 4.5 to 10' bgs
7:	00 -	5	8-10	0.6	3 3 4 6	7	NA		ay-brown fine to medium SAND, trace coarse Sand, trace fine t avel, trace light gray Silt in tip of sampler, trace Shells, loose, s			— 2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen
	-	6	10-12	1.0	7 4 7 6	11	NA	Da	rk gray-brown fine to coarse SAND, little fine Gravel, loose, sat	turated.		5 to 10' bgs
-	- -	7	12-14	0.7	3 3 3 3	6	NA		ay-brown fine to coarse SAND, trace fine to medium Gravel, traturated.	ace Silt, loose,		
6. — 15	95 <b>–</b> –											
					DI		ities	Re	arks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.  Lithologic descriptions from pilot boring drilled on 11/11/08. Well installed 3/3/09 and 3/17/09.			

Date Start/Finish: 11/10/08, 3/16/09 and 3/18/09

**Drilling Company: MATECO** 

Driller's Name: Gary Swift, Jack Sanders Drilling Method: Hollow Stem Auger Auger Size: 4.25" and 12.25" ID

Rig Type: CME-55

Sampling Method: 3" x 2' Split Spoon

Northing: 350726.9 Easting: 12775210.9 Casing Elevation: 715.4

Borehole Depth: 11' bgs

Surface Elevation: 712.4 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-12

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DЕРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
	715 <b>-</b> -	52								Locking J-Plug Steel Protective Casing
-	- - 710 -	1	0-3	NA	NA	NA	NA		No sample - continuous auger through 21AA stone pad.	Type I Portland/ 5% Bentonite grout 0 to 2' bgs  10" Steel casing 0 to 3.5' bgs  2" ID Type 304 Stainless Steel riser 3' ags to 4' bgs
- - -5	-	2	3-5	0.3	4 6 10 6	16	NA		Gray-brown fine to medium SAND, trace coarse Sand, trace fine Gravel, trace Silt, saturated.	Bentonite seal 2 to 3.5' bgs
-	-	3	5-7	1.1	2 2 2 7	4	NA		Gray-brown grading to dark gray-brown fine to medium SAND, trace coarse Sand, trace fine to medium Gravel, trace Silt, loose, saturated.	Grade #1 K&E silica sand pack 3.5 to 9' bgs
-	705 — —	4	7-9	0.7	3 4 1 6	5	NA		Dark gray-brown fine SAND, trace medium to coarse Sand, trace Silt, trace shells, loose, saturated.  Light gray calcareous fine SAND, little Silt, trace medium to coarse Sand, trace	2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen 4 to 9' bgs
-10	-	5	9-11	1.2	21 21 20 13	41	NA		fine Gravel, saturated.  Olive-brown fine to coarse SAND and fine to coarse GRAVEL, trace Silt, dense saturated.	_
-	- 700 -									
- 15	-									
	C	2	AR	CA	ADI	S		R	Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Seath Lithologic descriptions from pilot boring drilled of 3/18/09.	Level.

Infrastructure, environment, facilities

Vertical Datum: NGVD 1929

Horizontal Datum: NAD 83, Michigan South Zone

Date Start/Finish: 11/11/08, 3/2/2009 and 3/17/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders
Drilling Method: Hollow Stem Auger
Auger Size: 4.25" and 12.25" ID

Rig Type: CME-55

Sampling Method: 2" x 2' Split Spoon

Northing: 350420.2 Easting: 12774429.7 Casing Elevation: 714.4

Borehole Depth: 18' bgs Surface Elevation: 711.3 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-13

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-										Locking J-Plug  Steel Protective Casing
-	710 -	1	0-2	1.4	2 2 1	3	NA	H	Dark brown Organic SILT, trace Organics, damp.  Orange-brown fine to medium SAND, little coarse Sand, trace fine Gravel, loose, damp.  Gray-brown Clayey SILT, trace fine Sand, damp.	Type I Portland/ 5% Bentonite grout 0 to 4.5'
-	- -	2	2-4	0.4	2 2 2 2	4	NA	:    :    :    :    :    :    :    :	Gray-brown Grayey SiL1, trace fille Sarid, damp.  Gray-brown fine SAND, trace Silt, damp.  Olive-brown Silty CLAY, trace highy degraded natural Organics, moist.	bgs 10" Steel Double casing 0 to 6' bgs  2" ID Type 304
- 5	-	3	4-6	0.7	1 1 1	2	NA	+	As above, grading to dark gray-brown in color at 4.5' bgs, gray-brown fine to medium Sand seam at 4.5' bgs, moist.	Stainless Steel riser 3' ags to 7' bgs  Bentonite seal 4.5 to 6.5' bgs
	705 <b>-</b>	4	6-8	0.6	1 1 1 4 5	5	NA		Gray-brown fine to medium GRAVEL, little fine to coarse Sand, trace light gray (calcareous) Silt throughout, loose, saturated.	4.5 to 6.5' bgs
	-	5	8-10	0.6	4 4 7 9	11	NA			Grade #1 K&E silica sand pack 6.5 to 12' bgs
- 10 -	700 -	6	10-12	0.7	7 9 14 15	23	NA		As above, trace light gray Silt discoloration, gray calcareous deposits on gravel.	2" ID Type 304 Stainless Steel 0.010" VEE wire wrapped screen
	-	7	12-14	0.2	5 6 8	14	NA		GRAVEL in tip of shoe.	7 to 12' bgs
- - 15	- -	8	14-16	0.9	3 4 6 6	10	NA		Gray-brown fine to coarse SAND, little fine to medium Gravel, trace Silt, loose, saturated.	
					DI		ties		Remarks: ags = above ground surface; bgs = below ground s Applicable/Available; AMSL = Above Mean Sea Le Lithologic descriptions from pilot boring drilled on 1 3/17/09.	evel.

Vertical Datum: NGVD 1929

Horizontal Datum: NAD 83, Michigan South Zone

Client: Kalamazoo River Study Group

Site Location: Plainwell, Michigan Borehole Depth: 18' bgs

Well/Boring ID: MW-13

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	695 <b>–</b> –	9	16-18	0.5	4 7 3 5	10	NA		Gray-brown fine to medium GRAVEL, little fine to coarse Sand, trace Silt, loose, saturated.	
_	-									
- 20	- 690 <b>-</b>									
	-									
<u> </u>	-									
-	685 <b>-</b> -									
_ 30	-									
-	680 –									
-	-									
<del>-</del> 35	-									



**Remarks:** ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.

Lithologic descriptions from pilot boring drilled on 11/11/08. Well installed 3/2/09 and 3/17/09.

Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

Page: 2 of 2

Date Start/Finish: 11/10/2008, 3/3/09 and 3/16/09

**Drilling Company: MATECO** 

Driller's Name: Gary Swift, Jack Sanders Drilling Method: Hollow Stem Auger

Auger Size: 4.25" ID Rig Type: CME-55

Sampling Method: 2" x 2' Split Spoon

Northing: 350664.3 Easting: 12774948.4 Casing Elevation: 712.5

Borehole Depth: 16' bgs Surface Elevation: 709.5 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-14

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	710 —									Locking J-Plug  Steel Protective Casing
-	-	1	0-2	1.7	2 2 2 2	4	NA		Dark brown SILT, trace fine Sand, trace Organics (Roots), damp.  Brown fine to medium SAND, trace Silt, loose, damp.  Light gray Clayey SILT, damp.  Dark brown Organic SILT, trace Organics (Roots), damp.	Type I Portland/ 5% Bentonite grout 0 to 2' bgs  10" Steel casing 0 to 3' bgs
-	-	2	2-4	1.3	1 1 1	2	NA		Dark brown Silty fine SAND, trace Organics (highly degraded), moist to wet. at 2': Wet.  Gray-brown fine SAND, trace medium to coarse Sand, trace Silt, wet.	Bentonite seal 2 to 3.5' bgs  2" ID Type 304 Stainless Steel riser 3' ags to 4'
<b>-</b> 5	705 — —	3	4-6	1.6	1 1 1 2	2	NA		Brown SILT, trace fine Sand, wet.  Light gray-brown fine SAND, little Silt, trace medium to coarse Sand, trace fine to medium Gravel, saturated. (Light gray SILT in Sand/Gravel matrix).	bgs
-	- -	4	6-8	1.0	4 4 4 4	8	NA		Gray-brown fine to coarse SAND, trace fine to medium Gravel, trace Silt, saturated.	Grade #1 K&E silica sand pack 3.5 to 9' bgs
- 10	700 -	5	8-10	1.0	NA	NA	NA		As above, grading to dark gray at 8.7' bgs.	Stainless Steel 0.010" VEE wire wrapped screen 4 to 9' bgs
-	_	6	10-12	0.9	2 3 3 4	6	NA		Dark gray fine to medium GRAVEL, little fine to coarse Sand, trace Silt, saturated.	
-	- -	7 12-14 1.0 2 3 6 NA 4								
- 15	15 8 14-16 0.7 3 6 NA 5									
									Remarks: ags = above ground surface; bgs = below ground s	surface: NA = Not



**Remarks:** ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.

> Lithologic descriptions from pilot boring drilled on 11/10/08. Well installed 3/3/09 and 3/16/09.

Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

Date Start/Finish: 11/11/08, 3/2/2009 and 3/17/09

Drilling Company: MATECO
Driller's Name: Gary Swift, Jack Sanders **Drilling Method:** Hollow Stem Auger **Auger Size:** 4.25" and 12.25" ID

Rig Type: CME-55

Sampling Method: 2" x 2' Split Spoon

Northing: 350413.0 Easting: 12774893.2 Casing Elevation: 713.8

Borehole Depth: 18' bgs

Surface Elevation: 710.8 ft AMSL

Descriptions By: Ron Kuhn

Well/Boring ID: MW-15

Client: Kalamazoo River Study Group

Location: Plainwell, Michigan

DEPTH	ELEVATION Secolo Bire Nimber	Sample Kun Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	-							Locking J-Plug  Steel Protective Casing		
710	0 - 1 0-2 1.5 2 4 NA - 3 2								Dark brown Organic SILT, trace moderately degraded Organics, damp.  Gray-brown Clayey SILT, trace fine Sand, trace Organics, damp.  Orange-brown fine SAND, trace Silt, damp.	Type I Portland/ 5% Bentonite grout 0 to 4' bgs  2" ID Type 304 Stainless Steel riser 3' ags to 6.5' bgs
-	+	2	2-4	0.9	2 2 3	4	NA		Orange fine SAND, trace Silt, trace medium Gravel, moist.	10" Steel Double casing 0 to 5" bgs
5 705	- 5 <b>-</b>	3	4-6	0.5	1 2 3 3	5	NA		As above, Saturated.	Bentonite seal 4 to 6' bgs
-	+	4	6-8	0.8	3 4 4 3	7	NA		Gray-brown fine to medium SAND, little coarse Sand, trace fine to medium Gravel, trace Silt, loose, saturated.  Gray-brown fine to coarse SAND, little fine to medium Gravel, trace Silt,	Grade #1 K&E silica sand pack 6 to 11.5' bgs
- 10	- - -	5	8-10	0.8	5 4 4 3	9	NA		saturated.	2" ID Type 304 Stainless Steel
700		6 1	0-12	1.2	4 4 7 3	8	NA		As above, grading to dark gray at 12.4' bgs.	0.010" VEE wire wrapped screen 6.5 to 11.5' bgs
-	1	7 1	2-14	0.6	6 4 4 2	10	NA		Dark gray fine GRAVEL, little fine to coarse Sand, saturated.	
— 15 695		8 1	4-16	0.4	3 3 4	6	NA		emarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea L	surface; NA = Not
1	G		<b>AR</b>	CA	DI	S			Lithologic descriptions from pilot boring drilled on 3/17/09.	

Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

Client: Kalamazoo River Study Group

Site Location: Plainwell, Michigan Well/Boring ID: MW-15

Borehole Depth: 18' bgs

DEРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
	-	9	16-18	0.0	3 3 3 4	6	NA		No recovery - slough.	
- 20	690 -									
_ _ 25	- 685 -									
- 30	- 680 -									
- - - 35	675 -								<b>Pamarks:</b> ags – above ground surface; bgs – below ground s	



**Remarks:** ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.

Lithologic descriptions from pilot boring drilled on 11/11/08. Well installed 3/2/09 and 3/17/09.

Horizontal Datum: NAD 83, Michigan South Zone

Vertical Datum: NGVD 1929

## **ARCADIS**

## Attachment 3

Groundwater and Surface Water Sampling Logs

## **ARCADIS**

#### Attachment 3A

Groundwater and Surface Water Sampling Logs – Quarter 1 - April 2009

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	M. KOHAG							MM-				
Client / Job Number:	^	7.0000 Tas					-	1009				
Weather: GO°F, (	TEAR, I	TWIN	<u>e</u>				Time In: \2	213	Time C	out: 145	5	
Depth to Water:	(feet)	6.80		(TIC)		Well Type:			Flushmou	nt 🛘	Stick-Up	1
Total Depth:	(feet)	12.73		(TIC)		Well Mater	rial:	S	tainless Stee	al V	PVC	
Length of Water Column:	(feet)	5.93				Well Locke	ed:			s D	No	
Volume of Water in Well:	(gal)	0.97			_	Measuring	Point Marke	ed:	Ye	m/	No	
Three Well Volumes:	(gal)	2.91				Well Diam		1*		T	other:	
Purging Information	Pump	or @	1230	0	FF 0 1	4 35	0.01.			2 1	aloi.	
Purging Method: (Peristaltic Pump)	Barnant	Ge	eoPump [		Submersible	Othe	r.			Conversio		Term
Tubing Material:	Silicone	☐ Po	lyethylene		Teflon	Othe	r.		gal / ft. of water		* ID 4* ID 163 0.653	6° ID
Sampling Method:	Barnant		GeoPump	S	ubmersible	Othe	r.		1 gal = 3.7	785 L =3785	mi = 0.1337 c	ubic feet
Duration of Pumping:	(min)	125							Unit Stat	ility WITH	TURBIDITY	<5 NTU
Average Pumping Rate:	(ml/min)	100	W	ater-Qualit	y Meter Type	YSI-	556 & Ha 2100P	ich .	рН	DO	Cond.	ORP
Total Volume Removed:	(gal)			D	id well go dry	: Yes	No		∀ 0.1	∀ 10%	∀ 3.0%	√ 10 mV
	1	2	3	4	5.	6	7	8	9	10	11	12
Time;	1240	1245	1250	1255	1300	1305	1310	1315	1320	1325	1330	1335
Volume Purged (L)	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft.)	6.82	6.82	6.82	6.82		682	6.82	6.82	6.82	6.82	6.82	6.82
pH	7.21	7.23	7.24	7.23		7.25	7.24	7.24	7.25	725	7.25	7.25
Temp. (C)	10.60	10.64	10.66	10.73	+	16.84	11.05	10.89	10.76	10.89	10.91	10.94
Conductivity (mS/cm)	0.957	0.959	0.959	0.968		0.961	0.960	0.961	0.962	0.963	0.963	0.964
Dissolved Oxygen	0.96	0.57	0.46	0.39	0.33	0.29	0.30	0.31	0.27	0.25	0.22	0.22
ORP (mV)	-109.4	-113.7	-115.7	-117.8	-118.7	-121.1	-121.1	-120.9	-121.2		06-1200	
Turbidity (NTU)	13.5	12.9	11.5	11.9	10.2	9.19	8.60	6.50	5.77	5.66	479	4.48
Notes:	10.0	12.	11.0	11.1	10.2		0.00	(0.00	0.1.	0.00	1.7.	1.10
					Anai	yses	# of Contain	nors Ai	nalyses		# of Conta	inore
Purge Water Description	(Color? Od	or? Turbid	? Other?)	1	TOC-		- 1		loride, Sulfa	ite, &	COILE	ilicis
Initial Purge: CLGAR	, No 0	DOR.			TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	4	(2:	kalinity. 50 ml)		2	
Final Purge: CLEAR,	NO OD	or.			TSS (I L Poly)		2	1 7	tal Metals 50 ml with H	NO <sub>3</sub> )	2	
Well Integrity Information	<u>a</u>				PCBs (Total (Amber)	)	4	(25	0S 50 ml)		2	
Surface Seal Condition (con	crete pad, b	olts, manho	le cover):	000		INC	LUDE OVER	RSIGHT SP	LIT IN AMO	UNT TOTAL	_s	
Locking Protective Well Ca	p/expansion	plug: Go	000		Sample ID:	TYU	0014		San	nple Time:	1240	)
Well Lock Present? \\\	Lock Cond	ition: God	9		MS/MSD:	Yes	<b>1</b>	Duplio		es N	0	
Other:					Duplicate ID	TSH	0015		Dup	. Time:		
OVERSIGHT SAMPLE I	D:		TIME		Sampled By		/	Log R	eviewed By	MEN		
7	A		MA		Ail samples	submitted u	nder COC to	TAL of So	uth Burlingto	n, Vermont.		
G:\COMMON\64583\GW Samplin	ig\gw sampline	log quarterly do			ARC	ADIS					Page _	1 of 2

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	M. Komace	نما				v	Vell ID:	MW-	1					
Client / Job Number:		7.0000 Task 005	500				ate: L	1609						
Weather: GO* F, (	CLEAR, L.	T LJ.WD					ime In:	1215		Time (	Out:			
Depth to Water:	(feet)			(C)	W	ell Type:				Flushmou	nt 🗆		tick-Up	V
Total Depth:	(feet)			TC)		ell Materi	al:		Sta	ainless Ste	.1		PVC	
Length of Water Column:	(feet)				W	ell Locke	d:				s . D		No	
Volume of Water in Well:	(gal)		_				Point Mar	ked:	_					
Three Well Volumes:	(gal)		5	Z	_	ell Diame				Ye		Other:	No	
Purging Information			00	#	1	- Clarito			1.	Ц	2° V	Outer.		
Purging Method:	Barnant	7 GeoPum	2	Submersib	la 🗆	~···			. [		Conve	sion Fa	ctors	
(Peristaltic Pump)			. Ц		Ш	Other				gal / ft.	1° ID	2" ID	4° ID	6° ID
Tubing Material:	Silicone	Polyethyl	ene 🗌	Teflo		Other				of water	0.041	0.163	0.653	1.469
Sampling Method:	Barnant	GeoPi	ımp	Submersible	e 🗌	Other				1 gal = 3.	785 L =37	'85 ml = (	0.1337 c	ubic feet
Duration of Pumping:	(min)		Man Man						Г	Unit Ctal	:::4 \A/I	TU TUD	DIDITY	∠C NITH
Average Pumping Rate:	(ml/min)		Water-Qu	uality Meter T	ype:		556 & H	ach	*	Unit Stat	DO	Con		ORP
Total Volume Removed:	(anl)		100		-	Yes	2100P		.	∀ 0.1	∀ 10%	∀ 3.0	-	√ 10 mV
Total Volume Removed.	(gal)			Did well go	ury.	res		0-			1			
	1	. 2	3	4	5.	6	7		8	9.	-77	10.	11	12
Time:	1348												- 1 - 1	
Volume Purged (L)	7.00							1		1. 10			34.	
Rate (mL/min)	100													
Depth to Water (ft.)	6.82													
pH	7.26						1							
Temp. (C)	10.88						174							
Conductivity (mS/cm)	0.965	MAS NO		1 1 1										
Dissolved Oxygen	0.22													
ORP (mV)	-123.3										-			
Turbidity (NTU)	4.06							1						
Notes:			- 7-7					100						
				1				1 1 1						<u> </u>
Purge Water Description	(Color? Odo	r? Turbid? Oth	er?)	Aı	nalyse	<b>S</b>	# of Conta	iners	An	alyses			# of Conta	iners
nitial Purge:				TOCS (40 ml w	#b U C(		1,4			oride, Sulfa alinity.	te, &			
Final Purge:				TSS		74)			Tota	0 ml) al Metals	/			
Well Integrity Information			//	(I L Poly) POBs (T			•		(25)	0 ml with H	NO <sub>3</sub> )			
				Amber				•		0 mi)				
Surface Seal Condition (co	ncrete pad, bo	olts, manhole cove	er):	1		INCL	UDE OVE	RSIGHT	SPL	IT IN AMO	UNT TO	TALS		
Locking Protective Well C	ap/expansion	plug:	P	Sample I	D:		/			San	nple Time	e:		
Well Lock Present?	Lock Condit	tion:	. 1 '	MS/MSD		Yes	No	D	uplica		es	No		
Other:				Duplicate	ID:					Dun	. Time:			
OVERSIGHT SAMPLE	ID:	T	IME:	Sampled		-	·····	Lo	og Re	eviewed By:				
						nitted un	der COC			th Burlingto		ont		
				All samp	Co Subi	mued un		O IAL O	Jour		ii, veiin	л.		

#### **GROUNDWATER SAMPLING LOG**

**Spring 2009 EVENT** 

Plainwell, Michig	an							,				
Sampling Personnel:	M. Konnoe	س					Well ID: ./	1W-3				
Client / Job Number:	B006453	7.0000 Tas	sk 00500				Date: 4/15					-
Weather: 50°F, CI	EAR, MOS	Ding.					Time In: \	215	Time (	Out: 14	16	
Well Information		0 03			-	144 H T						-1
Depth to Water.	(feet)	3 75		(TIC)		Well Type			Flushmou	int 🗆	Stick-	Up V
Total Depth:	(feet)	2		(TIC)	-	Well Mate	rial:	:	Stainless Ste	el √	P	vc 🗆
Length of Water Column:	(feet)	4.92				Well Lock	ed:		Y	es . 🗓		No 🗌
Volume of Water in Well:	(gal) 🛆	802			-	Measuring	Point Mark	ed:	Y	es 🖟		No 🗆
Three Well Volumes:	(gal)	2.71				Well Diam	eter:	1"		2" √	Other:	
Purging Information	PUMP O	n @ 12	230	iff a	1355							
Purging Method: (Peristaltic Pump)	Barnant [	] Ge	eoPump [	3	Submersible	Othe	r.				on Factors	
Tubing Material:	Silicone	☐ Po	lyethylene		Teflon	Othe	r.		gal / ft. of water			ID 6" ID 653 1.469
Sampling Method:	Barnant		GeoPump	D s	ubmersible	Othe	er.					653 1.469 87 cubic feet
Duration of Pumping:	(min)	85										
Average Pumping Rate:	(ml/min)	les of less	N	/ater-Qualit	y Meter Type:	YSI-	556 & Ha	ach "	Unit Stal	DO DO	Cond.	TY <5 NTU ORP
Total Volume Removed:	(gal)	7.25			id well go dry:	Yes	2100P	2	∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV
Total Totalio Namovoa.	(gui)	2.43			id Hell go dry.	100	(					
	10.10	2	3	4		6	7	8		10		1 12
Time:	1240	1245	1250	1255	-	1305	1310	1315	1320			56
Volume Purged (L)	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50		11
Rate (mL/min)	100	100	100	100	100	100	100	100	100	106		
Depth to Water (ft.)	8.86	8.84	8.86	8.86	8.86	8.84	8.86	8.86	8.86e	8.86		N
pH	7.23	7.18	7.13	7.10	7.09	7.12	7.16	7.12	7.08	7.08	1	W
Temp. (C)	10.06	10.57	10.67	10.87	10.82	10.77	10.72	10.70	10.77	10.87		M
Conductivity (mS/cm)	1.096	1.084	1.073	1.067	1.064	1.059	1.055	1.052	-	1039		X
Dissolved Oxygen	0.41	0.37	0.43	0.36	0.29	0.26	0.24	0.26	0.25	0.24	1/	
ORP (mV)	- 88.1	-86.0	-86.Z	-89.8		-88.3	-88.3	-90.1	-912	-90.4	1/	
Turbidity (NTU)	30.8	20.2	16.6	14.3	10.8	7.82	5.49	4.80	414	3.97	/	
Notes:	1	2.2	10.0	1,	10.2	. 02		, w		J. 17		
Purge Water Description	(Color? Od.	or? Turbid	? Other?		Anai	yses	# of Contai	ners A	nalyses		# or	f ntainers
Initial Purge: SLT (					TOCs (40 ml with h	I <sub>2</sub> SO <sub>4</sub> )	2	C	chloride, Sulfa lkalinity. 250 ml)	ate, &	)	
Final Purge: CLEAR	, NO 01	>o₹			TSS (I L Poly)		. 1	Ť	otal Metals 250 ml with H	NO <sub>3</sub> )	1	
Well Integrity Information	<u>on</u>				PCBs (Total) (Amber)	)	2	Т	DS 250 ml)		1	
Surface Seal Condition (co	oncrete pad, b	olts, manho	le cover): (	5000		INC	LUDE OVE		PLIT IN AMO	UNT TOTA	LS	

Locking Protective Well Cap/expansion plug:

Well Lock Present? VES

OVERSIGHT SAMPLE ID:

Other:

MA

MFK

Sample ID:

Duplicate ID:

Sampled By:

NA

MS/MSD:

1325

MA

Dup. Time:

Duplicate:

All samples submitted under COC to TAL of South Burlington, Vermont.

Log Reviewed By:

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	A.01		1.00500				Vell ID:	W-4	a				
Client / Job Number: Weather: 50° 0		7.0000 Tas	sk 00500				ime In:	15-0	Time	Outs 1	105		
Well Information	vercas	T				- '	ime in: O	145	rime	Out:	05		
Depth to Water:		0.25		(TIC)		Well Type:			Flushmou	unt 🗌	Stick	c-Up	1
Total Depth:		14.46	Share	(TIC)	_	Well Materi	al:	s	tainless Ste	eel V	1	PVC	
Length of Water Column:		4.21			_	Well Locke	d:		Y	es · 🔽		No	
Volume of Water in Well:		168				Measuring	Point Marke	ed:	Y	es 🗆		No	U
Three Well Volumes:	(gal)	2.05			-	Well Diame	ter:	1"		2" √	Other:		
Purging Information													
Purging Method: (Peristaltic Pump)	Barnant	Ge	eoPump [	Y 5	Submersible	Other				T T	ion Facto	rs	
Tubing Material:	Silicone	☐ Po	olyethylene	П	Teflon	Other		-	gal / ft. of water	1" ID		* ID	. 6" ID
Sampling Method:	Barnant	П	GeoPump	√ s	Submersible	☐ Other				785 L = 378	0.163 0 35 ml = 0.13	.653	1.469
Duration of Pumping:	(min)	65				U							*
Average Pumping Rate:	(ml/min)		14	later Onalit	ty Meter Type		556 & Ha	ch			H TURBIC	YTI	
	(11421141)	100	<u> </u>	raici-Quali	ty Wieter Type	4	2100P		pH ∀ 0.1	DO ∀ 10%	Cond. ∀ 3.0%	A	ORP 10 mV
Total Volume Removed:	(gal)	1.71		D	old well go dry	r. Yes	(No	)	V 0.1	V 1070	V 3.076	1 ,	101111
	1	2	3	4	5	6	7	8	9	1	0	11	. 13
Time:	1005	1010	1015	1020	1025	1030					6		
Volume Purged (L)	1	1.5	2	2.5	3	3.5			:			25 %	
Rate (mL/min)	100	100	100	100	100	100							
Depth to Water (ft.)	10.26	10.26	10.26	10.26	10.26	10.26	- 44 - 17	1900					
pH	7.25	7.25	7.25	7.22	7.19	7.19	1176						
Temp. (C)	9.34	9.34	9.38	9.47	9.52	9.52							
Conductivity (mS/cm)	1.078	1.060	1.043	1.034	1.032	1.031							
Dissolved Oxygen (mg)	,47	.38	138	136	,44	.39							
ORP (mV)	-104.1	- 97.5	-101.8	-100.9	5 - 97.7	-101.2		1	1				
Turbidity (NTU)	6.90	4.81	2.52	1.63	1.43	1.19							
Notes:	Sea .												
Purge Water Description (	Color? Od	or? Turbid	? Other?)		Anal	lyses	# of Contain	ners Ai	nalyses		# c		iners
Initial Purge: Clear		1			TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	2	All	nloride, Sulf kalinity. 50 ml)	ate, &		1	
Final Purge: Clear	/no	odor			TSS (I L Poly)		. 1	To	tal Metals 50 ml with I	HNO <sub>3</sub> )	-	1	
Well Integrity Information					PCBs (Total (Amber)	1)	2	Т	OS 50 ml)			1	
Surface Seal Condition (con	crete pad, b	olts, manho	le cover): C	Rocal	(Minuel)	INCI	UDE OVER			DUNT TOT	ALS		
ocking Protective Well Cap	p/expansion	plug: QO	od										
Well Lock Present? Y 15		)	1			75400 Yes	207	Duplic		mple Time Yes	(6)	50	
Other:		5			MS/MSD:		<u> </u>	- John			9		
OVERSIGHT SAMPLE II	D:		TIME		Duplicate ID			Long		p. Time:	_		
Pump on 09:					Sampled By Ail samples	submitted un	eil der COC to	0.4	leviewed By uth Burlingt		nt		

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	M. Koi	MAGEN	<u> </u>			,	Well ID:	1W-5					
Client / Job Number:		7.0000 Tas					Date: 4	15 09			-		
Weather: 40°:	S, OVERCA	ST, Mol	wind.				Time In: O	943	Time	Out: 11	20		
Depth to Water:	(feet)	10.13		(TIC)	•	Well Type:		B	Flushmou	ınt 🗆	Stic	ck-Up	1
Total Depth:	(feet)	14.23		(TIC)	-	Well Mater	rial:	s	tainless Ste	-1		PVC	
Length of Water Column:	(feet)	4.10				Well Locke	ed:			es D		No	
Volume of Water in Well:	(gal)	0.67					Point Mark	ed:		es D		No	
Three Well Volumes:	(gal)	2.00			-	Well Diam		1*		2° √	Other:	140	
Purging Information	PUMP	on a	955	OFF	-@ 1/10				L	2 1			
Purging Method: (Peristaltic Pump)	Barnant [	] Ge	eoPump [	S	Submersible	Othe	r:			Conver	sion Fact	ors 4° ID	6* ID
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	r.		gal / ft. of water	0.041	0.163	0.653	1,469
Sampling Method:	Barnant		GeoPump	S	ubmersible	Othe	r.		1 gal = 3.		85 ml = 0.1		
Duration of Pumping:	(min)	75							Unit Sta	hility WIT	TH TURBI	DITY	< NTII
Average Pumping Rate:	(ml/min)	100	W	/ater-Qualit	y Meter Type	YSI-	556 & Ha 2100P	ach .	pH	DO	Cond.	-	ORP
Total Volume Removed:	(gal)	1.98		D	id well go dry	: Yes	No	7	∀ 0.1	∀ 10%	∀ 3.09	6 7	10 mV
	(3)												
Time:	1005	1010	1015	1020	1025	1030	1035	1040	9	1	10	11	. 12
Volume Purged (L)	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50				\$ £.	/
Rate (mL/min)	100	100	100	100	100	100	100	100				1	
Depth to Water (ft.)	10.14	10.14	10.14	10.14	10.14	10.14	10.14	10.14			1		
pH	6.82	6.93	7.05	714	7.19	7.24	7.25	7.26	1000	1. /	THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE S		
Temp. (C)	9.21	9.22	9.27	934	9.44	9.64	9.65	9.85		(X)			
Conductivity (mS/cm)	1.003	1.000	1.006	1.001	1.001	1.000	1.001	0.999	1.	X	1		
Dissolved Oxygen	0.58	0.48	0.57	0.46	0.38	0.31	0.32	0.29		/			- 1 11 1
ORP (mV)	-723	-79.8	-86.5	-93.9	-98.7	-104.6		- 107.3	1	1			
Turbidity (NTU)	10.1	5.36	2.73	2.56	2.32	1.53	1,43	1.76	/				
Notes:	10	0.00		5.00	1		11.5						-
	1				Anal	vene	# of	Δ.	nalvese		#	of	
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	Contai	ners	nalyses		C	onta	iners
Initial Purge: CLEAR,	NO 00	OR.			TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	All	nloride, Sulfa kalinity. 50 ml)	ate, &	1		3
Final Purge: CLEAR,	NO OD	OR.			TSS (I L Poly)		.1		otal Metals 50 ml with h	INO <sub>3</sub> )	1		
Well Integrity Informatio	<u>n</u>				PCBs (Total (Amber)	)	2		0S 50 ml)		1		
Surface Seal Condition (co	ncrete pad, b	olts, manho	le cover): (	5000		INC	LUDE OVE	RSIGHT SP	LIT IN AMO	OUNT TO	TALS		
Locking Protective Well Co	ap/expansion	plug: G	000		Sample ID:	T540	2001		Sa	mple Time	: 1640	3	
Well Lock Present? 45	Lock Cond	ition: Go	00		MS/MSD:	Yes	(A)	Duplie		Yes	(Ng)		
Other:					Duplicate ID	: 2/	A		Du	p. Time:	NA		
OVERSIGHT SAMPLE	D:		TIME	:	Sampled By			Log R	Reviewed By			Sal.	
NIA			2/8	1	All samples	1 "	nder COC to	o TAL of So	uth Burlingt	The same of the same of			

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	A.O.V						Well ID: M		~				
Client / Job Number: Weather: 53° C		7.0000 Tas	sk 00500				Date: 4	-16-0 000	Time (	Dute /	020		
Well Information	ear						Time In:	000	nine (	Jut: /e	230		
Depth to Water:	(feet)	1.91	William II	(TIC)		Well Type:			Flushmou	nt 🗆	Stick	Up	1
Total Depth:	(feet)	5.89		(TIC)		Well Mater	rial:	S	tainless Ste	el $\sqrt{}$	Р	vc	
Length of Water Column:	(feet)	5.98				Well Locke	ed:		Y	es , 🗸		No	
Volume of Water in Well:	(gal)	97			-	Measuring	Point Marke	ed:	Ye	es 🗇		No	V
Three Well Volumes:	(gal)	1.92			-	Well Diam	eter:	1"		2" √	Other:		
Purging Information													
Purging Method: (Peristaltic Pump)	Barnant [	] Ge	eoPump	s	Submersible	Othe	r.				ion Factor		
Tubing Material:	Silicone	☐ Po	lyethylene	П	Teflon	Othe	г.		gal / ft. of water	1" ID .		. ID	6° ID
Sampling Method:	Barnant	П	GeoPump	N S	ubmersible	☐ Othe	r.			0.041 785 L =378	0.163 0. 5 ml = 0.133	653 37 cut	1.469 bic feet
Duration of Pumping:	(min)	135		L					i gai = 0.	700 L 070	J 1111 - 0. 100	,, cui	SIC ICCC
			10	latan Ovalit	y Meter Type	YSI-	556 & Ha	ich			H TURBID	_	
Average Pumping Rate:	(ml/min)	100	VV	ater-Qualit	y Meter Type		2100P		pH ∀ 0.1	DO ∀ 10%	Cond:	-	ORP 10 mV
Total Volume Removed:	(gal)	3.56	,	D	id well go dry	: Yes	No	2	V 0.1	V 10%	∀ 3.0%	1 0	10 mV
100	1	2	3	4	5	6	7	8	9	10	) 1	11	12
Time:	1015	1020	1025	1030	1035	1040	1045	1050	1055	1100	5		
Volume Purged (L)	11	1.5	2	2.5	3	35	4	4.5	5	5.5		549	
Rate (mL/min)	100	106	100	100	100	100	100	100	100	100			
Depth to Water (ft.)	9.93	9.93	9.93	9.93	9.93	9.93	9.93	9.93	9.93	9.92			
pH	7.13	7.18	7.17	7.17	7.16	7.17	7.19	7.17	7.19	7.17			
Temp. (C)	10.52	10.45	10.56	10.61	10.65	10.73	10.77	10.79	10.82	10.80	Y		
Conductivity (mS/cm)	1.004	,990	,982	,979	.975	,974	.973	,972	.971	970			
Dissolved Oxygen	,39	,30	.31	,34	,28	.24	,22	,23	,18	121			
ORP (mV)	-24.6	-25.8	-98.8	-102.6	-96.8	-89.4	-85,5	-92.9	-100.7	-100:	7		
Turbidity (NTU)	20.2	14.12	8.22	7.16	5.06	4.25	3.47	2.98	2.35	1.84			
Notes:												1	
	(6.1.00)				Anai	yses	# of Contain	ners Ar	nalyses		# o		ners
Purge Water Description				, ,	TOCs		1	Ch	loride, Sulfa	ate, &		10211	
Initial Purge: C\ Lar w			5/no o	dor	(40 ml with	H <sub>2</sub> SO <sub>4</sub> )	6	(25	(alinity.		3		
Final Purge: Clear	/no o	dor			TSS (I L Poly)		3		tal Metals 50 ml with H	NO <sub>3</sub> )	3		
Well Integrity Informatio	<u>n</u>				PCBs (Total (Amber)	)	10	(25	S (50 ml)		3		
Surface Seal Condition (con	ncrete pad, b	olts, manho	le cover): ∠	good		INC	LUDE OVER	RSIGHT SP	LIT IN AMC	UNT TOT			
Locking Protective Well Ca	ap/expansion	plug: QO	od		Comple ID							-	-
Well Lock Present? 165	Lock Cond	ition: 900	od		Sample ID:	T540	0013 No	Duplic		nple Time: Yes	110	٥	
Other:		)		//- a	MS/MSD:								
OVERSIGHT SAMPLE	D:		TIME		Duplicate ID			115		o. Time:			
Pumpon 100					Sampled By	A.0.1	Joil	Log R	eviewed By				
Pump off 12	20				All samples	submitted u	nder COC to	TAL of Sou	ath Burlingto	on, Vermor	nt.		

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	H.ON							1W-1	_			
Client / Job Number:		7.0000 Tas	sk 00500		16 74		A CONTRACTOR OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH	-15-0		1	1	
Weather: 62° C.	ear						Time In:	225	Time C	out: L	115	
Depth to Water.	(feet)	0.30		(TIC)		Well Type:			Flushmou	nt 🛘	Stick-Up	V
Total Depth:	(feet)	4.70		(TIC)		Well Mater				1		
Length of Water Column:	(feet)	44		(110)		Well Locke		Si	ainless Stee		PVC	
Volume of Water in Well:	(gal)	71			_					es . D	No	
Three Well Volumes:		2.15					Point Mark		Ye	1	No	V
Purging Information						Well Diam	eter:	1*		2" 1	Other:	
Purging Method: (Peristaltic Pump)	Barnant	] Ge	eoPump	1	Submersible	Othe	r:			Conversion	on Factors	
Tubing Material:	Silicone	☐ Po	lyethylene	П	Teflon	Othe	r.		gal / ft. of water		2* ID 4* ID	6" ID
Sampling Method:	Bamant	П	GeoPump	Y s	Submersible	Othe	r.	4			0.163 0.653 5 ml = 0.1337 ca	1.469 ubic feet
Duration of Pumping:	(min)	95									H. Hart	- A
Average Pumping Rate:	(ml/min)	100	V	/ater-Quali	ty Meter Type	YSI-	556 & Ha	ach .	pH pH	DO DO	Cond.	<5 NTU ORP
		,00		Mag. 1		- 14	2100P	_	∀ 0.1	∀ 10%		/ 10 mV
Total Volume Removed:	(gal)	2.50	)	- C	oid well go dry	: Yes	No	<u></u>		he di		
	1	2	3	4	5.	6	7	8	9	10	11	12
Time:	1245	1250	1255	1300	1305	1310	1315	1320	1325	1330	1335	
Volume Purged (L)		1.5	2	2.5	3	3.5	4	4.5	: 5	5.5	6	
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100	100	
Depth to Water (ft.)	10.32	10.32	10.32	10.3		10.32	10.32		10.32	10.30		
pH	7.06	7.07	712	7.18	7.17	717	7.17	7.23	7.25	7.26	7.28	
Temp. (C)	10.11	10.38	110	10.85	5 10.57	10.47	10.49	10.42	10.52	10.47		
Conductivity (mS/cm)	1.258	1.264	1.254			1.193	1.174	1.161	1.144	1.140		
Dissolved Oxygen	.48	.19	.18	,23	120	.110	.12	.10	.07	.07	.06	
ORP (mV)	-31.9	-384	-57.3	-189.3		-75.7	-78.4	-83.8	-87.7	-88.3	-88.3	
Turbidity (NTU)	57.0	39.7	23.2	15.2	1	6.81	4.74	3.62	2.75	194	1.22	
Notes:	31.0	21.7	00.00	10.0	1111	0.01	1.61	3.00	0.15	1.17	1.00	*
					1					<u> </u>		
Purge Water Description	(Color? Ode	or? Turbid	? Other?)		Anal	yses	# of Contai	ners Ar	alyses		# of Conta	iners
nitial Purge: Cl Lar	Ino	odor			TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	2	Alk	loride, Sulfa	te, &	1	
inal Purge: Clear					TSS (I L Poly)		1	To	i0 ml) tal Metals i0 ml with H	NO <sub>2</sub> )	1	12
Vell Integrity Informatio	<u>n</u>				PCBs (Total	1)	2	TD	S		1	
urface Seal Condition (cor	ncrete pad, b	olts, manho	le cover): C	book	(Amber)	INC		RSIGHT SPI	it in ANO	UNT TOTA	1	
ocking Protective Well Ca				7 ,		INC	CODE OVE	KSIGHT SPI	LIT IN AMO	ONI TOTA		
Vell Lock Present? Y25		2			Sample ID:	TSY		D. P.		nple Time:	1335	
Other:	_our condi	900	24		MS/MSD:	Yes	No	Duplic	ate:	es (	VO)	
OVERSIGHT SAMPLE I	n.		TIME		Duplicate ID		-	-		. Time:		
Pump on 12			TIME		Sampled By	A.O.A	1.1	Log R	eviewed By:			
D 00 19	110				All samples			TAL of Sou	th Burlingto	n, Vermont	Ł.	

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:		Jeil					Vell ID:		0				
Client / Job Number:	1.1	7.0000 Tas	sk 00500					-15-0		Outs 1	220		
Weather: 55° p	earthy c	lovay					ime In:	110	Time	out: /	220		
Depth to Water:	(feet)	8.84		(TIC)		Well Type:			Flushmou	ınt 🗆	S	tick-Up	1
Total Depth:	(feet)	8.53		(TIC)		Well Materi	ial:		Stainless Ste	el V		PVC	
Length of Water Column:	(feet)	9.69		101-03/9		Well Locke	d:		Y	es . 🗹		No	
Volume of Water in Well:	(gal)	1,57			_	Measuring	Point Mark	ed:	Y	es 🗇		No	V
Three Well Volumes:	(gal)	4.73			-	Well Diame	eter:	1*	0	2° V	Other:		
Purging Information					•								
Purging Method: (Peristaltic Pump)	Barnant	7 Ge	eoPump	√ s	Submersible	Other	:			Conver	sion Fac	tors	T:
Tubing Material:	Silicone	☐ Po	lyethylene	<u>-</u>	Teflon	Other			gal / ft. of water	1" ID	2* ID	4° ID	. 6" ID
Sampling Method:	Barnant	П	GeoPump	₽⁄ s	ubmersible	☐ Other				0.041 .785 L =37	0.163 85 ml = 0	0.653	1.469
Duration of Pumping:	(min)	15											100
		65				YSI-	556 & Ha	ich .		bility, WI	1		
Average Pumping Rate:	(ml/min)	100	V	Vater-Qualit	ty Meter Type	4	2100P		pH	DO	Cond	-	ORP
Total Volume Removed:	(gal)	1.71		D	id well go dry	: Yes	(No	)	∀ 0.1	∀ 10%	∀ 3.0	%   V	/ 10 mV
	1	2	3	4	5	6	7	8	9	1.	10.1	11	12
Time:	1125	1136	1135	1140		1150		4100	1				
Volume Purged (L)	1	1.5	2	2.5	3	3.5			1 : 103			54.	
Rate (mL/min)	100	100	100	100	100	100							
Depth to Water (ft.)	8.85	8.86	8.86	8.86		8.86							
pH	7.18	7.21	7.21	7.21	7.20	7.20		- 4.					
Temp. (C)	11.90	11.88	11.88	11.72	11.99	12.32							-
Conductivity (mS/cm)	995	.996	.995	,995	1,993	,992							
Dissolved Oxygen mg	175	.45	,28	,23	1.21	.19							
ORP (mV)	-90.8	-92.7	-95.8	-97.6	1-98.0	-96.4				-			
Turbidity (NTU)	9.11	8.51	7.43	4.98		3.20							
Notes:													-
							# of		<u>-1</u>			# of	
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	Contai	Heis	Inalyses			Conta	iners
Initial Purge: Clear	/no	odor			TOCs (40 ml with I	H <sub>2</sub> SO <sub>4</sub> )	2	A	Chloride, Sulf Alkalinity. 250 ml)	ate, &		1	
Final Purge: Clear					TSS (I L Poly)		1	T	otal Metals 250 ml with I	(NO <sub>2</sub> )		1	
Well Integrity Information					PCBs (Total	)	7	Т	DS			1	7
Surface Seal Condition (cor	ncrete pad, b	olts, manho	le cover): 6	2000	(Amber)	INCI	LIDE OVE		250 ml) 	OUNT TO	TALS	1	
Locking Protective Well Ca	p/expansion	plug: GO	od -										
Well Lock Present? yes			1		Sample ID:	T541	000	Will Collection To the	Sa licate:	mple Time Yes	Pi ( ( ( )	50	
Other:		٦٠		T. Park	MS/MSD:								
OVERSIGHT SAMPLE I	D:		TIME		Duplicate ID Sampled By			1100	Du Reviewed B	p. Time:	-	_	
Pump on 1115						H. O.V	leil		7 130 141				
0 0	10				All samples	submitted ur	nder COC to	TAL of S	outh Burlingt	on, Vermo	ont.		

## **GROUNDWATER SAMPLING LOG**

Client / Job Number:		7.0000 Tas	sk 00500					-17-				
Weather: 620 C	lear						Time In:	025	Time	Out: 1	55	
Depth to Water:	(feet)	3.81		(TIC)	•	Well Type	· Falks		Flushmou	ınt 🗆	Stick	un V
Total Depth:	(feet)	9.49		(TIC)		Well Mate		-	Stainless Ste	1		PVC
Length of Water Column:		5.68		(1.10)		Well Lock		3		5/		
Volume of Water in Well:	(gal)	925					Point Marke	ad:				No U
Three Well Volumes:	(gal)	2.77				Well Diam				es 🗆	Other:	No U
Purging Information						vveii Diam	eter.	1*		2" V	Oller.	
Purging Method: (Peristaltic Pump)	Barnant	] Ge	eoPump [	y s	ubmersible	Othe	r:			1	sion Factor	
Tubing Material:	Silicone	☐ Po	lyethylene	П	Teflon	Othe	r.		gal / ft. of water	1° ID		653 1.4
Sampling Method:	Barnant		GeoPump	SI SI	ubmersible	Othe	r.				0.163 0 85 ml = 0.13	
Duration of Pumping:	(min)	75	- 1						Unit Sta	hility WIT	TH TURBID	ITY <5 NT
Average Pumping Rate:	(ml/min)	100	w	ater-Quality	y Meter Type	YSI-	556 & Ha 2100P	ich	pH	DO	Cond.	ORP
Total Volume Removed:	(gal)	1.98		Di	d well go dry	: Yes	(No	7	∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 m
Total Volume Nemoved.	(gai)	1.70			d well go dry	. 103						
	1	2	3	4	5.	6	7	8	9	1	0	11
Time:	1040	1045	1050	1055		1105	1110	1115		-		· · · · · · · · · · · · · · · · · · ·
Volume Purged (L)	1	1.5	2	2.5	3	3.5	1 4	4.5	1 1 1 1 1 1			
Rate (mL/min)	100	100	100	100	100	100	100	100			. (6)	
Depth to Water (ft.)	13.83	13.83	13.83	13.83		13.83	13.83	13.83	>			-
pH	7.14	7.22	7.27	7.30	7.32	7.28	7.28	7.27				
Temp. (C)	10.08	10.28	10.35	10.26	10.14	10.31	10.32	10.25	10048			
Conductivity (mS/cm)	1820	.869	,877	.875	1.875	.873	,875	.875	W. Control			
Dissolved Oxygen	1.69	.38	.32	,31	,33	.31	.30	.28				
ORP (mV)	-13.5	-40.9	-51.7	-55.0	1-56.1	-50.9	-56.6	-64.6	,			
Turbidity (NTU)	9.13	9.12	7.91	6.02	5.00	4.41	3.36	2.99				
Notes:												-
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	# of Contain	ners A	nalyses		# c	of ontainers
Initial Purge: Clea			10 10 10 10 10 10 10 10 10 10 10 10 10 1		TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	Al	hloride, Sulfa kalinity.	ate, &		
Final Purge:		ouo.			TSS (I L Poly)	- "	1	To	50 ml) otal Metals 50 ml with I-	INO-)	1	
Well Integrity Informatio	<u>on</u>				PCBs (Total (Amber)	)	2	П	OS (mi)	(3)	i	
Surface Seal Condition (co	ncrete pad, b	olts, manho	le cover): 2	booj	(Alliber)	INC	LUDE OVER			OUNT TO	TALS	
Locking Protective Well Co	ap/expansion	plug: Qo	od		Sample ID:					mple Time		_
Well Lock Present? Y25	Lock Cond	ition: 30	od		MS/MSD:	Yes	10011	<i>Q</i> Dupli		Yes Yes	6	ر
Other:					Duplicate ID	:			Du	p. Time:		
OVERSIGHT SAMPLE			TIME:		Sampled By	Δ Δ΄	A 1 1	Log F	Reviewed By	r.		
Pump on 10 Pump off 11					All samples	submitted u		TAL of So	uth Burlingto	on, Vermo	nt.	
G:\COMMON\64583\GW Sampli					150	ADIS					D	e / of

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	.DNe	Ed-Ambury	-k 00500					1W-1					
Client / Job Number: Weather: 35° V	Lin	7.0000 Tas	SK UUSUU-				Date: 4	300	Time	Out: 14	35		
Well Information	LIVI						Time iii.	300	- Timile	out. 1-	00		
Depth to Water:	(feet)	7.64		(TIC)		Well Type	e de la la		Flushmou	ınt 🗆	Si	tick-Up	1
Total Depth:		2.45		(TIC)		Well Mate	rial:	9	tainless Ste	.1	-	PVC	
Length of Water Column:	(feet)	4.81				Well Lock		3		- 5/	,		
Volume of Water in Well:	(gal)	78					Point Mark	od:				No	N
Three Well Volumes:	(gal)	2.35								es 🗆	0#	No	<u> </u>
Purging Information						Well Diam	neter:	1"		2° V	Other:		
Purging Method: (Peristaltic Pump)	Barnant	] Ge	eoPump	y s	ubmersible	Othe	er.			T	sion Fac		
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	er.		gal / ft. of water	1" ID	2" ID 0.163	4" ID 0.653	6" ID
Sampling Method:	Barnant		GeoPump	St St	ubmersible	Othe	er:		1 gal = 3.	785 L =37	اسيسا		
Duration of Pumping:	(min)	°105	85										
Average Pumping Pate:	10110100			Jater Qualit	y Meter Type	YSI-	-556 & Ha	ach *		bility, WI	T	-	
Average Pumping Rate:	(ml/min)	100	, , , , , , , , , , , , , , , , , , ,	rater-Quality	y weter Type		2100P		pH	DO	Conc		ORP
Total Volume Removed:	(gal)	2.24		Di	id well go dry	: Yes	(No	D	∀ 0.1	∀ 10%	∀ 3.0	%   \	10 mV
	T 1	2	3	4	5.	6	7	8	9	1	10	11	1:
Time:	1315	1320	1325	1330		1340	1345	1350				11	
Volume Purged (L)	11	15	2	2.5	3	3.5	4	4.5	. **			55.	
Rate (mL/min)	100	100	100	100	100	100	100	100					
Depth to Water (ft.)	7.65	7.65	7.65	7.65	7.65	7.65	7.65	7.65					
pH	7.14	7.13	7.13	7.13	7.13	7.12	7.13	7.13					
Temp. (C)	7.49	7.57	7.62	7.61	7.65	771	773	7.71		1			
Conductivity (mS/cm)	1.203	1.206	1.208	1.210	1.210	1.211	1.213	1.214					
Dissolved Oxygen mg	1.41	1.93		.57	,45	.36	.32	.30					
ORP (mV)	-77.4	-81.8	-81.9	-85.3		-71.6	-72.1	-73.9		-			
Turbidity (NTU)			4.49	3.61	2.42	2.44	1.91					-	-
Notes:	8.07	6.14	4.41	3.61	4.92	2.99	1.71	1.64				-	-
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	# of Contai	ners Ar	nalyses			# of Conta	iners
nitial Purge: Clear					TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	All	loride, Sulfa calinity. 50 ml)	ate, &		1	
inal Purge:					TSS (I L Poly)		· 7	To	tal Metals 50 ml with h	INO <sub>3</sub> )		1	
Well Integrity Informatio	<u>n</u>				PCBs (Total (Amber)	)	2	TO				1	
urface Seal Condition (co	ncrete pad, b	olts, manho	le cover): 6	300d F	(Afficer)	INC		RSIGHT SP		NINT TO	TAIS	(	
ocking Protective Well Ca	ap/expansion	plug: QO	od										
Well Lock Present? YES		)			Sample ID:	TS4C	0005 (No)	Duplic		nple Time Yes	(No)	350	,
Other:		750			MS/MSD:								
OVERSIGHT SAMPLE	D:		TIME		Duplicate ID Sampled By			Log B	Duj eviewed By	p. Time:	70		
Pump on 131	05				All samples	A.D.	nder COC to				ont.		

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	1. D'Ne						Well ID:						
Client / Job Number:		7.0000 Tas	sk 00500				Dutc.	- 14 -0		- 1	-		
Weather: 38° Y	ain						Time In: /	000	Time	Out: /	200	>	
Depth to Water:	(feet)	6.82		(TIC)	-	Weil Type	:		Flushmo	unt 🛘		Stick-Up	1
Total Depth:		2.92		(TIC)		Well Mate		9	tainless St	.1		PVC	$\overline{\Box}$
Length of Water Column:		6.1				Well Locke	ed:	3		res . D	,	No	
Volume of Water in Well:	(gal)	994					Point Mark	ed.					
Three Well Volumes:	(gal)	2.98				Well Diam				1	Other:	No	
Purging Information						vveii Diam	ictor.	1*	П	2" V	Outer.		
Purging Method: (Peristaltic Pump)	Barnant	G	eoPump [	1	Submersible	Othe	er.			Conver		T	
Tubing Material:	Silicone	☐ Po	lyethylene	П	Teflon	V Othe	er.		gal / ft. of water	1" ID	2* ID	4° ID	6" ID
Sampling Method:	Barnant		GeoPump	M S	Submersible	Othe	эг.			0.041 0.785 L =37	0.163 85 ml = 0	0.653 0.1337 cu	1,469
Duration of Pumping:	(min)	105										11.	- A.S.
Average Pumping Rate:	(ml/min)		V	/ater-Quali	ty Meter Type	YSI-	-556 & Ha	ich	pH Sta	bility, WI	Con		ORP
							2100P		∀ 0.1	∀ 10%	∀ 3.		10 mV
Total Volume Removed:	(gal)	2.77		L	oid well go dry	: Yes	No						
	. 1	2	3	4	5	6	7	8	9	1. 1	0	11	. 12
Time:	1020	1025	1030	1035	1040	1045	1050	1055					
Volume Purged (L)	1	1.5	2	2.5	3	35	4	4.5	: 927			55.	
Rate (mL/min)	100	100	100	100	100	100	100	100					
Depth to Water (ft.)	6.84	6.84	6.84	6.84	6.84	10.84	6.84	6.84					
pH	7.35	7.32	7.33	7.33	7.33	7.33	7.34	7.33					
Temp. (C)	7.12	7.13	7.16	7.13	7.24	7.26	7.26	7.30					
Conductivity (mS/cm)	.995	,950	,936	934	,931	930	1,929	,928					
Dissolved Oxygen M9	,99	.63	.42	.43	.39	,40	,36	.32					
ORP (mV)	-100.9	-112.6	-115.7	-96.1	-866	-108.9	-1017	-99.2					
Turbidity (NTU)	17.5	12.21	8.44	6.16		4.28	3.04	1.97					
Notes:													-
							# of	l	<del></del>			# of	
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	Contai	ners Ar	nalyses			Contai	ners
Initial Purge: Clear	w/ crar	ex fle	octies	no oclor	TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	4º2 L	All	loride, Sulf calinity.	fate, &		1	
Final Purge: Clear					TSS (I L Poly)		2	To	tal Metals o ml with l	HNO-)	-	1	
Well Integrity Informatio	Δ				PCBs (Total (Amber)	)	AO2 C	1 TC		1103)	-	1	
Surface Seal Condition (con	ncrete pad, b	olts, manho	le cover): (	Road	(Alliber)		LUDE OVER			OUNT TO	TALS		
Locking Protective Well Ca					Comple ID			3.5.11 31					
Well Lock Present? 405					Sample ID: MS/MSD:	7540 Yes	(No)	Duplic		mple Time	No No	5	
Other:		)				+ + 1	2002		De	p. Time:			
OVERSIGHT SAMPLE I			TIME		Duplicate ID Sampled By	: , ,	0003		eviewed B		113	00	
Pump of 11	10				A. D	Neil	nder COC to				nt		
rump off 11	155				All samples	Submitted U	nder COC to	TAL OF SOL	au buning	on, vermo	nic.		

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	1. D'Ne						Well ID:	1W-11	_				
Client / Job Number:		7.0000 Tas	k 00500				Date: 4	-14-0	9				
Weather: 38° Y	ain						Time In: /	000	Time	Out: /	200	)	
	(foot)	6.82		(TIC)	_	Well Type	r		Fluobmou	ınt 🗆		tial: Un	1
Depth to Water: Total Depth:	(feet)	2.92		(TIC)	_	Well Mate			Flushmou	.1	5	tick-Up	
Length of Water Column:		6.1		(TIC)	-			S	tainless Ste		,	PVC	
Volume of Water in Well:		994	Telan.		_	Well Lock			Y	es . 🗹		No	
Three Well Volumes:	(gal)	2.98					Point Mark	ea:		es 🗆		No	
						Well Diam	neter:	1"		2" V	Other:		
Purging Information											-		
Purging Method: (Peristaltic Pump)	Barnant	☐ Ge	eoPump	<b>d</b> :	Submersible	Othe	er.			T 1	sion Fac	tors 4° ID	6" ID
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	er.		gal / ft. of water	1" ID 0.041	0.163	0.653	1.469
Sampling Method:	Barnant		GeoPump	M s	Submersible	Othe	er.		1 gal = 3.	.785 L =37	85 ml = 0	.1337 ca	ibic feet
Duration of Pumping:	(min)	105							Unit Cto	Lilih. IAT	THE THOS	NDITY	e NTU
Average Pumping Rate:	(ml/min	100	N	/ater-Quali	ty Meter Type	YSI-	-556 & Ha	ch	pH pH	bility, WI	Cond		ORP
			-				2100P		∀ 0.1	∀ 10%	∀ 3.0		10 mV
Total Volume Removed:	(gal)	2.77	3 1		Did well go dry	: Yes	No						
	1	2	3	4	5	6	7	8	9	T 1	0	11	. 12
Time:	1020	1025	1030	1035	1040	1045	1050	1055		1			
Volume Purged (L)	1	1.5	2	2.5	3	3.5	4	4.5	: - 27			35	
Rate (mL/min)	100	100	100	100	100	100	100	100		1 9 8			
Depth to Water (ft.)	6.84	6.84	6.84	6.84	6.84	10.84	6.84	6.84					
рН	7.35	732	1.33	7.33		7.33	7.34	7.33				-	
Temp. (C)	7.12	7.13	7.16	7.13	7.24	7.26	7.26	7.30					
Conductivity (mS/cm)	.995	, 950	,936	934	,931	930	1929	,928					
Dissolved Oxygen Mg	,99	,63	.42	.43	39	,40	,36	,32					
ORP (mV)	-100.9		-115.7	-96.1	1	-108.9		-99.2	- A				
Turbidity (NTU)	17.5	12.21	8.44	6.16		4.28	3.04	197		+			
Notes:	11.5	10.01	0.11	W.10	3.99	1.00	0.01	1.11		1.			
									Pand Ta				
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	# of Contai	ners Ar	nalyses			# of Contai	iners
Initial Purge: Clear		•		noclor	TOCs (40 ml with )	1-SO <sub>4</sub> )	4°2 L	All	lloride, Sulfa kalinity.	ate, &		7	
Final Purge: Clear				COO	TSS	1,2004)	2	To	tal Metals	110	-	L	
Well Integrity Informatio					(I L Poly) PCBs (Total	)	AO	I TO		INO <sub>3</sub> )	1		
Surface Seal Condition (con	ncrete pad, b	olts, manho	le cover): (	amd	(Amber)				50 ml)		- 0		
Locking Protective Well Ca				jui			LUDE OVER	COLUMN SP					
Well Lock Present? Y05					Sample ID:	T540	0002	Duplic		mple Time	105 No	55	
Other:		750	_		MS/MSD:								
OVERSIGHT SAMPLE	D:		TIME		Duplicate ID	T54	0003			p. Time:	113	0	
Pump on 10			1 2178.	1	Sampled By	Neil		Log R	eviewed By	r.			
Pump off 1	155				All samples	submitted u	nder COC to	TAL of Sou	uth Burlingto	on, Vermo	ont		

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel: /	4.0.N						Well ID:			litera i			
Client / Job Number:	THE RESIDENCE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF T	7.0000 Ta	sk 00500					-13-			11 50		
Weather: 45° 0	verca	55					Time In:	1510	) Tin	ne Out:	1650		
Depth to Water:	(feet) S	3.59		(TIC)		Well Type			Flushr	nount [	Stic	k-Up	1
Total Depth:		2.00		(TIC)		Well Mate	rial:		Stainless	Steel V		PVC	
Length of Water Column:	(feet)	3.41			_	Well Lock	ed:			Yes .	/	No	
Volume of Water in Well:	(gal)	, 55				Measuring	Point Mark	ed:		Yes []		No	M
Three Well Volumes:	(gal)	.10			_	Well Diam	eter.	1	. []	2° √	Other:	110	
Purging Information								-					
Purging Method: (Peristaltic Pump)	Barnant	] G	eoPump	7	Submersible	Othe	er:			Conve	ersion Facto	ors	
Tubing Material:	Silicone	Po	olyethylene		Teflon	Othe	er.		gal / f	0.	-	4" ID	6° ID
Sampling Method:	Barnant		GeoPump	V S	ubmersible	Othe	er:		-	0.041	0.163 3785 ml = 0.1	0.653 337 cu	1.469 ubic feet
Duration of Pumping:	(min)	85				FILE						19	-
Average Pumping Rate:	(ml/min)		v	Vater-Quali	ty Meter Type	YSI-	-556 & Ha	ach	Dnit S	DO DO	Cond.	OITY -	<5 NTU ORP
Total Volume Removed:	(gal)	2.24			oid well go dry	r: Yes	2100P	7	∀ 0.1	∀ 10%	∀ 3.0%	, 🗸	10 mV
								_					
	1530	1505	3	1011		مرسرسرا	7		8	9	10	11	1
Time: Volume Purged (L)	1330	1535	1540	1545		1555	1600	12.57		672		場も	
Rate (mL/min)	100		2	2.5	3	3.5	19		+				
Depth to Water (ft.)	100	100	100	100	917	100	100			-			
pH	8.66	8.66	8.67	8.67	8.67	8.67	8.67	- 4				-	
Temp. (C)	6.71	6.81	6.87	6.86		6.88	6.87					-	
Conductivity (mS/cm)	6.82	, 888	6.75	6.79	6.85	6.88							
Dissolved Oxygen ma	5.69		1.78	.880		.876	1.50					-	
ORP (mV)	79.7	790	and the second	1.69	1.60	1.51						-	
Turbidity (NTU)		1.0	76.8	79.5	81.3	83.6	87.6		-			$\dashv$	
Notes:	1.77	.75	.65	.62	1.60	.64	6.62	. CI				-	
				1		tur	10.48 W	10 tlo	opell				
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	# of Contai	ners	Analyses			of ontai	iners
Initial Purge: Clear					TOCs (40 ml with	H₂SO₄)	2		Chloride, S Alkalinity. (250 ml)	ulfate, &		1	
Final Purge: Clear	, no	odor			TSS (I L Poly)		. 1		Total Metal (250 ml wit			1	
Well Integrity Information	<u>on</u>				PCBs (Total (Amber)	1)	2		TDS (250 ml)			(	
Surface Seal Condition (co	ncrete pad, b	olts, manho	le cover): O	good	(ranser)	INC	LUDE OVE			MOUNT TO	TAI S		
ocking Protective Well C			1 -	,									
Well Lock Present? Yes	Lock Cond	ition: 900	d		Sample ID: MS/MSD:	T 5 Yes	100	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	olicate:	Sample Tim Yes	(No)	00	
Other:		0											
OVERSIGHT SAMPLE	ID:		TIME		Duplicate ID		•	1100	Reviewed	Dup. Time:	-		
ump on 15					A. C	Neil	1. 600						
ump off 16	45				All samples	submitted u	nder COC to	TAL of S	outh Burlin	igton, Verm	nont.		

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	-	AGEN						1W-13	3			
Client / Job Number:		7.0000 Tas					• 1	14/09				
Weather: 405, 60	ERCAST/	LY RAIN	1 15	wino.			Time In: /	20	Time C	Out: +	- 121	5
Depth to Water:	(feet)	8.39	3	(TIC)		Well Type			Flushmou	nt 🗆	Stick-l	Jp √
Total Depth:	(feet)	15.00	)	(TIC)		Well Mate	rial:	S	Stainless Stee	el V	PV	c 🗆
Length of Water Column:	(feet)	6.67				Well Lock	ed:	1.6	Ye	s . D		lo 🛘
Volume of Water in Well:	(gal)	1.00	1		1984	Measuring	Point Marke	ed:		0/		
Three Well Volumes:	(gal)	3.2	7			Well Diam			Ye	1	Other:	10 U
Purging Information	PUMP	on O	1055	i of	FO 17	230	eter.	1*		2* V	Other.	
Purging Method: (Peristaltic Pump)	Barnant [	Ge	eoPump		Submersible	Othe	r.			F	ion Factors	T
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	r.		gal / ft. of water	1" ID 0.041	2° ID 4° 0.6	
Sampling Method:	Barnant		GeoPump	Ø S	Submersible	Othe	r.		1 gal = 3.7	785 L =378	5 ml = 0.133	
Duration of Pumping:	(min)	95							Unit Ct I	iliby tanta	J TI IDDIDIT	V de NTU
Average Pumping Rate:	(ml/min)	100	V	Vater-Qualit	ty Meter Type	YSI-	556 & Ha	ich	pH pH	DO DO	Cond:	ORP
		100		4		4 1111	2100P			∀ 10%	∀ 3.0%	∀ 10 mV
Total Volume Removed:	(gai)	9.5	<u> </u>	D	oid well go dry	: Yes	No	)	V 0.1	V 1078	V 3.0%	V IOIIIV
	1105	1110	1115	4	1125	1130	7	-8	9	10		
/olume Purged (L)	1,.02	ITTO	DOMESTIC AND IN	1120	1	11	1135	1140	1145	1150	2.5	
	1.00	1.30	2.00	2.50		3.50	4.00	4.50	500	5.50		PER COLUMN TO SERVICE
Rate (mL/min)	100	100	100	100	100	100	100	106	100	100	100	100
Depth to Water (ft.)	8.39	8.39	8.39	8.39	8.39	839	8.39	8.39	8.39	8.39	8.39	8.45
H	6.78	6.88	7.05	7.09	7.17	7.18	7.22	7.23	7.25	7.25	7.27	7.29
Temp. (C)	8.40	8.54	8.58	8.51	8.53	8.48	8.44	8.45	8.39	8.26	8.39	839
Conductivity (mS/cm)	1.015	0.903	0.961	0.961	0.959	0.959	0.959	0.958	0.958	0958	0.958	0.95
Dissolved Oxygen	1.34	0.86	0.56	0.50	0.47	0.47	0.42	0.39	0.39	0.40	0.38	0.37
ORP (mV)	-683	-88.6	-102.7	-106.8	-111.8	-113.5	-114.5	-115.4	-115.8	-1153	-117.1	-119.1
Turbidity (NTU)	34.4	21.4	21.8	22.3	15.0	821	7.22	6.14	5.31	4.34	4.21	4.74
Notes:											7	
urge Water Description	(Color? Ode	or? Turbid	? Other?)		Anal	yses	# of Contai	ners A	nalyses		# of Con	tainers
nitial Purge: SLIGHTL					TOCs (40 ml with l	H-SO <sub>4</sub> )	2	Al	hloride, Sulfa kalinity.	ite, &	1	
inal Purge: CLEAR	120 W	Ane .	000	•	TSS (I L Poly)	20-47	1	To	50 ml) otal Metals 50 ml with Hi	NO-)	1	
ell Integrity Information					PCBs (Total	i)	2	TI	os	103)	,	
urface Seal Condition (co	ncrete pad, b	olts, manho	le cover):/	200	(Amber)	13.10	L UDE CUE	1.	50 ml)	UNIT TO	/	
ocking Protective Well Co				Con		INC	LUDE OVE	KSIGHT SP	LIT IN AMO		ALS	
ell Lock Present?		,			Sample ID:	754000 Yes	DH (NO)	Dupli		nple Time:	1200	
ther:		Gw			MS/MSD:	, 03						
VERSIGHT SAMPLE	ID: 1		TIME	i:	Duplicate ID Sampled By	-	N/A		Dup Reviewed By:	. Time:	NIA	
	NA		-	AV		INF	1		uth Burlingto	MAK	rt.	

#### **GROUNDWATER SAMPLING LOG**

POOG 453	Z OOOD Too	L OOEOO				-						
								Time C	Out: 1	703		
010-(01)	, , ,	2 101-2			0.00							
(feet)	6.19		(TIC)		Well Type			Flushmou	nt 🗆	Stic	k-Up	1
(feet)	11.61		(TIC)		Well Mate	rial:	S	tainless Stee	el V		PVC	
(feet)					Well Locke	ed:		Ye	s . D		No	
(gal)					Measuring	Point Marke	ed:	Ye	s I	-	No	0
(gal)					Well Diam	eter:	1*		1	Other:		
Pump o	1 (B)	1515	OFF (	9 1640.							A ·	6
Barnant [	] Ge	eoPump [	S	ubmersible	Othe	c		*				
Silicone	Po	lyethylene		Teflon	Othe	r. //		gal / ft. of water			-	6" ID
Barnant		GeoPump	St St	ubmersible	Othe	r. ~ <i>)</i> *		1 gai = 3.7				1
(min)	85				7-7-1	0.2		I I - i A DA - h	III. MATT	LI TUDDI	DITY	e uru
(ml/min)	100	) W	Vater-Quality	Meter Type	YSI-		ch			T	T	ORP
					-			∀ 0.1	∀ 10%	-	1	10 mV
-(gai)	8.5 L		Di	d well go dry	Yes	No	2					
. 1	2	3	4	5	6	7	8	9	1	0	11	. 1
1525	1530	1535	1540	1545	1550	1555	1600	1605	1610			/
1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	4.50	5.5	0	55	/
100	100	100	100	100	100	100	100	100	100			/
6.20	7620	6.20	6.20	6.20	6.20	(0.20	6.20	6.20	6.20			1,
	6.95		6.99	6.99				100000000000000000000000000000000000000			0	
7.63	7.58	754	7.51	749	7.54	7.56			-		14	
0.756	0.769	0.774	0.777	0.787	0.790	008 M		-			1	
1.07	0.87	0.90	0.87	0.63	0.56			0.37	+			
-477	-545							-73.7		7		
5 17	411		267					115				
1 2.11	1.11	0.0	2.01	2.50	1. 12	1.12		1,,,,,	0. (			-
-			Γ	Anal	veae	# of	۸.	nalvese		#	of	
(Color? Ode	or? Turbid	? Other?)	-		,,,,,,,	Contain	ners			С	onta	iners
NO 0	DOR.			TOCs (40 ml with h	H <sub>2</sub> SO <sub>4</sub> )	2	All	kalinity.	ite, &		1	
NO 01	DOR			TSS (I L Poly)		1	To	tal Metals	NO <sub>3</sub> )		1	
<u>n</u>				PCBs (Total)	)	2	ТС	s			1	
ncrete pad, b	olts, manho	le cover):	ann	(Amber)	INC	UDE OVER	- 1		INT TOT	ALS		-
ap/expansion	plug: (~~	20		C			3.3 01				-	
	ition:				T 54 Yes	0001	Duplic			0	610	)
	90	על	***	•		1/4		Dun				
D;		TIME			1	A						
				Sampled By:	MFK	/	1100 8	BAILBARD HAY	MFK	/		
	BO06453 OVERCAS  (feet) (feet) (feet) (gal) (gal) Pump of Barnant (min) (ml/min) (sel) 1 1525 1.00 1.00 6.20 6.89 7.63 0.756 1.07 -47.2 5.17	(feet) (0.19 (feet) (11.6] (feet) 11.6] (feet) 11.6] (feet) 5.42 (gal) 0.88 (gal) 2.64 PumP on 6 Barnant 6 Silicone 70 Barnant 70 Barnant 70 (min) 85 (ml/min) 100 (gal) 8.5 L  1 2 1525 1530 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 1.50 1.00 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Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold   Sold	Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Solitone   Polyethylene   Polyethylene   Solitone   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene   Polyethylene	Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   Geet   G.   G.   G.   G.   G.   G.   G.   G	B0064537,0000 Task 00500   OVERCAST, MoD   Mind   OVERCAST, MoD   Mind   OVERCAST, MoD   Mind   OVERCAST, MoD   Mind   OVERCAST, MoD   Mind   OVERCAST, MoD   Mind   OVERCAST, MoD   Mind   OVERCAST, MoD   Mind   OVERCAST, MoD   OVERCAST, MoD   OVERCAST, MoD   OVERCAST, MoD   OVERCAST, MoD   OVERCAST, MoD   OVERCAST, MoD   OVERCAST, MoD   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   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OVERCAST, Mod   OVERCAST, Mod   OVERCAST, Mod   OVERCAST,	B0064537,0000 Task 00500   Dete: 4 17   Time In: 1	B0064537, 0000 Task 00500   Date: 4/13 09   Time In: 1505	B0064537.0000 Task 00500   Date: \( \frac{1}{13}, \frac{1}{9} \)   Time in: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   S   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \)   Time (n: \( \frac{1}{5} \	Dete: 4 13, 09	Dock   1   1   2   2   1   2   1   2   2   1   2   2	Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   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#### **GROUNDWATER SAMPLING LOG**

Spring 2009 EVENT

Page \_\_ of \_\_

Sampling Personnel:		GEN				1		VIW-13				
Client / Job Number:		7.0000 Tas		146 (4				14/09				
Weather: 40°5, 0	VERCAST	/ RAIN,	LTWI	ND.			Time In:	310	Time (	Out:		
Depth to Water:	(feet)	7.10		(TIC)		Well Type:			Flushmou	nt 🗆	Stick-L	lo V
Total Depth:	(feet)	14.49		(TIC)		Well Mater	rial:	S	ainless Ste	1	PV	
Length of Water Column:	(feet)	7.39				Well Locke	ed:			es D	_	lo 🛘
Volume of Water in Well:	(gal)	1.20	Miller				Point Marke	ed:	Ye	0		10 🗆
Three Well Volumes:	(gal)	3.60				Well Diam		1"		1	Other:	
Purging Information	PUMP	000 B	1320	OF	FOI	506	Olor:			2 1	outor.	
Purging Method: (Peristaltic Pump)	Barnant	] Ge	eoPump	Si	ubmersible	Othe	r.			T-	on Factors	
Tubing Material:	Silicone	☐ - Po	lyethylene	П	Teflon	Othe	r.		gal / ft. of water		2° ID 4° I	
Sampling Method:	Barnant	П	GeoPump	Su	ıbmersible	Othe					0.163 0.65	
		Ш		L.		U Oule			1 gal = 3.	785 L =3785	ml = 0.1337	cubic feet
Duration of Pumping:	(min)	100				VCI	556 & Ha	ch	Unit Stat	oility, WITH	TURBIDIT	Y <5 NTU
Average Pumping Rate:	(ml/min)	100	W	ater-Quality	Meter Type	: 131-	2100P	CII	рН	DO	Cond.	ORP
Total Volume Removed:	(gal)	2.64	1	Die	d well go dry	Yes	(No	")	∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV
	1 1	2	3	4	5	6	7	8	9	10	1 11	12
Time:	1330	1335	1340	1345	1340	1355	1400	1405	1410	1415	1420	
Volume Purged (L)	1.00	1.50	2.00	2.50	3.03	3.50	4.00	4.50	5.00	5.50		S. Charles Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100	100	1
Depth to Water (ft.)	711	211	7.11	7.11	7.11	7.11	7.11	7:11	7.11	7.11	711	
pH	7.13	7.13	7.14	7.15	7.15	7.15	7.16	7.17	7.18	7.18	7.18	
Temp. (C)	7.37	7.34	7.38	7.38	7.39	7.46	7.50	7.51	7.53	7.56	7.5	
Conductivity (mS/cm)	0.773	0.771	0.771	0.769	0.769	0.770		0.776		0.780	0.782	
Dissolved Oxygen		0.60	0.43	0.36	0.33	0.26	0.770	0.24	0.125	0.24	0.24	
ORP (mV)	-64.8	:69.7	= 72.8		-77.3	-78.7	-79.8	-80.5	-81.9	-81.7		
Turbidity (NTU)	29.8	23.1		-75.6	13.6		6.99	-		A SECULAR SECULAR	-81.4	
Notes:	171.0	23.1	19.6	15.5	13.6	8.88	6.11	5.10	3.82	291	2.58	-
Purge Water Description	(Color? Ode	or? Turbid	? Other?)		Anal	yses	# of Contai	ners Ar	nalyses		# of Con	tainers
Initial Purge: SLIGH	Try CLC	by, re	COLE		TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	All	loride, Sulfa calinity. 50 ml)	ite, &	1	
Final Purge: CLEAN	R, No	0000			TSS (I L Poly)		1	To	tal Metals 50 ml with H	NO <sub>2</sub> )	1	
Well Integrity Informatio					PCBs (Total (Amber)	)	2	TC		1.03/	1	
Surface Seal Condition (con	ncrete pad, b	olts, manho	le cover): (	5000		INC	LUDE OVER	1,120		UNT TOTA	LS	
Locking Protective Well Ca	ap/expansion	plug:	~^	-								
Well Lock Present?		ition:	×0	-	Sample ID: MS/MSD:	TS4C Yes	000G	Ouplic		nple Time: Yes (N	1420	
Other:					Duplicate ID	:			Dur	). Time:	,	
OVERSIGHT SAMPLE			TIME	1 - 1	Sampled By		MIA	Log R	eviewed By		N/A	
	4/4		2	A	All samples	submitted u	nder COC to	TAL of Sou	ith Burlingto	on, Vermont	1	

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## **GROUNDWATER SAMPLING LOG**

Sampling Personnel: Number:	B006453	<u>ん</u> 7.0000 Tas	k 00500				Nell ID:	1W-2				
Weather: 50°, Cur			SK 00000				14.	945	Time C	Out: 113	0	
Well Information	40,000											
Depth to Water:	(feet)	0.03		(TIC)		Well Type:			Flushmou	nt 🗆	Stick	-Up. √
Total Depth:	(feet)	5.06		(TIC)		Well Mater	rial:	St	ainless Stee	el $\sqrt{}$	Р	vc 🗆
Length of Water Column:	(feet)	5.03				Well Locke	ed:		Ye	s . D		No 🖸
Volume of Water in Well:	(gal)	0.82				Measuring	Point Marke	ed: .	Ye	s D		No 🖸
Three Well Volumes:	(gal)	2.46				Well Diam	eter:	1*		2° √	Other:	
Purging Information	PUMP OR	000	03	OFF B	1115							
Purging Method: (Peristaltic Pump)	Barnant	] Ge	eoPump [	S	ubmersible	Othe	n grande	1000			ion Factor	
Tubing Material:	Silicone	П Ро	lyethylene	П	Teflon	V Othe	г.		gal / ft. of water	1° ID		D 6* ID
Sampling Method:	Barnant	П	GeoPump	N Su	ıbmersible	Othe	г.			0.041 785 L =378		653 1.469 37 cubic feet
Duration of Pumping:	(min)	75							, ga		0.10	7 64210 1001
				fator Ovalita	Mater Tune	YSI-	556 & Ha	ch				TY <5 NTU
Average Pumping Rate:	(ml/min)	100	, v		Meter Type		2100P		pH	DO	Cond.	ORP
Total Volume Removed:	(gai)	1.98		Di	d well go dry	: Yes	No	<u> </u>	∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV
	. 1	2	3	4	5	6	7	8	9	1	0 1	11 , 1
Time:	1010	1015	1020	1025	1030	1035	1040	1045	1050			1/
Volume Purged (L)	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	500			
Rate (mL/min)	106	100	100	103	100	100	100	100	100			
Depth to Water (ft.)	10.04	10.04	10.04	10.04	10.05	1005	10.05	10.05	10.05		1/	
рН	7.03	7.05	7.04	7.04	7.05	7.07	7.07	7.07	7.07		W	
Temp. (C)	10.42	10.66	10.53	10.53	10.68	10.77	10.89	11.01	11.14		*	
Conductivity (mS/cm)	1.059	1.055	1.057	1.058	1.054	1.055	1.054	1.054	1.053			
Dissolved Oxygen	0.79	0.52	0.64	0.50	0.39	0.36	0.32	0.31	0.29	1		
ORP (mV)	-89.7	-940	-92.4	-924	-97.4	-190.6	-101.1	-103.0	-104.3	1/		
Turbidity (NTU)	200	17.2	10.0	774	6.21	5.55	3.09	2.71	7.39	1/		
Notes:										- 69		
				Г	Anal	vene	# of	Α,	nalyses		# 0	of .
Purge Water Description	(Color? Od	or? Turbid	? Other?)	-	Allai	yses	Contai	iers		4- 0	Co	ntainers
Initial Purge: SLT	CLOUDY, 1	NO 00	OR		TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	2	Alk	loride, Sulfa alinity. 50 ml)	ite, &	1	
Final Purge: CLEAR	, No of	200			TSS (I L Poly)		· P		tal Metals io ml with H	NO <sub>3</sub> )	ι	
Well Integrity Information					PCBs (Total (Amber)	)	2	TD			1	
Surface Seal Condition (co	oncrete pad, b	olts, manho	le cover):	300D		INC	LUDE OVER			UNT TOT	ALS	
ocking Protective Well C	Cap/expansion	plug:	000		Sample ID:	TSH	3012		San	nple Time	IAFA	
Well Lock Present? VES	Lock Cond	ition: Go	09		MS/MSD:	Yes	No	Duplic	ate:	res (	1050	,
Other:					Duplicate ID	بر :	lA		Dup	. Time:	No A	
OVERSIGHT SAMPLE	1		TIME		Sampled By			Log R	eviewed By			
	P/A		4/4	1	All samples		nder COC to	TAL of Sou	ith Burlingto	on, Vermo	nt.	
		log quarterly, do			4 75 4	ADIS						of

#### **GROUNDWATER SAMPLING LOG**

	MFK/AC							Well ID:	1		W 5	AMPLE	6	SG	-5
Client / Job Number:		0000 Task	00500				THE RESERVE TO SHARE THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY		3/09	1	Time (	<b>-</b>			
Weather: 40°, OVE	MANAGEMENT OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE		-5					Time In:	<u> </u>		Time (	Jut:			
Depth to Water:	(feet)	20 00		(TI	C)		Well Type:				Flushmou	nt 🗆		Stick-Ur	1
Total Depth:	(feet)			(TI			Well Mater	rial:		St	ainless Ste	1		PVC	
Length of Water Column:	(feet)						Well Locke	ed:			-wareness	es 🛘		No	
Volume of Water in Well:	(gal)							Point Mark	ed:		Ye			No	
Three Well Volumes.	(gal)		-		-		Well Diapa			1"		2° V	Other		
Purging Information			-												
Purging Method: (Peristaltic Pump)	Barnant	GeoF	ump [		Subme	rsible	Othe	r:				Conver	sion Fa	ctors	6" ID
Tubing Material:	Silicone	Polye	thylene		1	eflon	Othe	r.			gal / ft. of water	0.041	0.163	0.653	
Sampling Method:	Barnant [	Ge	oPump		Submer	sible	Othe	r.			1 gal = 3.	785 L =37			
Duration of Pumping:	(min)										Unit Stal	hilita 1871	TU TUD	BIDITY	ZE NITH
Average Pumping Rate:	(ml/min)		V	Vater-Qua	ality Mete	er Type	YSI-	556 & Ha	ich		pH	DO DO	Cor	-	ORP
Total Volume Removed:	(gal)				Did well	go do	r. Yes	2100P No		-	∀ 0.1	∀ 10%	∀ 3.		∀ 10 mV
Total Volume Removed.	(gai)				Did Well	go ury	. les	NO							
Time:	1 1425	2	3		4	5	6	7		8	9		10	11	
Volume Purged (L)	-						1000				: .57		1		10.0
Rate (mL/min)	-					-,440									4000
Depth to Water (ft.)	-														
рН	6.13						174								
Temp. (C)	9.22														
Conductivity (mS/cm)	0.552					_									
Dissolved Oxygen	1282											A			
ORP (mV)	1916			-			i					1			
Turbidity (NTU)	7.76											1	12.0	0,	
Notes:	1.10	1										1000			2.
						Anal		# of			-1	1		# of	9
Purge Water Description	(Color? Odor	r? Turbid? (	Other?)			Anai	yses	Contai	ners		nalyses			Conta	ainers
Initial Purge:		1			(40 m	s ol with l	H <sub>2</sub> SO <sub>4</sub> )	2		Alk	loride, Sulfa alinity. i0 ml)	ate, &	1		
Final Purge:					TSS (ILP	olv)		1		Tot	tal Metals 0 ml with H	NO <sub>2</sub> )	1		
Well Integrity Information	<u>on</u>	, ,			S ROSE OF LITTLE	(Total	)	2		TD	s	1103/	1		
Surface Seal Condition (co	ncrete pad, bo	lts, manhole	cover):		(Amb	er)	INC	LUDE OVE	selen.	1	0 ml)	UNIT TO			
ocking Protective Well C	ap/expansion p	olug:						LUDE OVER							
Well Lock Present?	Lock Conditi	ion:				ole ID:	56.5 Yes	NO.	21	Ouplic		nple Time Yes	1	25	
Other:					MS/N			0		-рпо			NO		
OVERSIGHT SAMPLE	ID:		TIME			cate ID		7.7		og D		o. Time:			
					Jaill	neu Dy	ME	W	IL	OU KE	eviewed By:				

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel: / Client / Job Number:			ask 00500				Well ID: 5W05 6-5 Date: 417/09								
Weather: 50°5	CYAR,						Time In: (190) Time Out: (170)								
Well Information															
Depth to Water:	(feet)			T	IC)		Well Type	9:			Flushmo	unt 🗆		Stick-Up	1
Total Depth:	(feet)			п	(C)		Well Material:				ainless Ste	eel V		PVC	
Length of Water Column	: (feet)	/					Well Lock	ked:			Y	es . 🗌	m Tille	No	
Volume of Water in Well	(gal)						Measurin	g Point Mark	ed:	_		es 🗍		No	П
Three Well Volumes:	(gal)						Well Dian	neter:		1"	П	2° √	Other		
Purging Information	Ti	aken	As Sh	SAM	neve	-0 5	6-5			•					
Purging Method: (Peristaltic Pump)	Barnant [	] (	GeoPump		Sub	mersible	Oth	er:		F		Conver	sion Fa	ctors	6" ID
Tubing Material:	Silicone	☐ F	olyethylene			Teflon	Other:				gal / ft. of water	0.041	0.163	0.653	+
Sampling Method:	Barnant		GeoPump	-0	Sub	mersible	Oth	er.			1 gal = 3	.785 L =37	85 ml =	0.1337 c	ubic feet
Duration of Pumping:	(min)									Г	11 11 01			DID. 17	
Average Pumping Rate:	(ml/min)			Water-Ou	ality M	Meter Type	YSI-556 & Hach				pH pH	bility, WI	Con		<5 NTU
							4	2100P	111	1	γn ∀ 0.1	∀ 10%	∀ 3.	-	√ 10 mV
Total Volume Removed:	(gal)			32	Did	well go dry	: Yes	No	)	L		. 1078	1 , 0.	-70	. , , , , , , ,
	11151	2	3	3	4	5.	6	7		8	9		10	11	1
Volume Purged (L)	THE T					* * h-			1		1 gar		-	- 4	
Rate (mL/min)												and the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of th			
	-		- 0.00000 - 1.000000	-	-						The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s				
Depth to Water (ft.)	1005								1			-			
pH	8.03						/NK			-					
Temp. (C)	11.17				-		AH	4							
Conductivity (mS/cm)	0.543					1	V .					-			
Dissolved Oxygen	13.20				1										
ORP (mV)	107.7								1						
Turbidity (NTU)	4.91														
Notes:		/													
Purge Water Descriptio	n (Color? Ode	r? Turbi	d? Other?)		Ė	Anai	yses	# of Conta	ners	An	alyses			# of Conta	iners
nitial Purge:	.,		/			rocs .		۵			oride, Sulf	ate, &	Ц		
final Purge:			/			10 ml with l	H <sub>2</sub> SO <sub>4</sub> )	8		(25)	0 mi) al Metais		1		
Well Integrity Informat	ion	/				L Poly) CBs (Total	)			(25)	0 ml with H	HNO <sub>3</sub> )	7		
Surface Seal Condition (c		olte mark	ole cover).			Amber)		8			0 mi)		4		
			ole cover):				INC	CLUDE OVE	RSIGHT	SPL	IT IN AMO	OUNT TO	TALS		
Vell Lock Present?							Sample ID: TS3 (CC) Sample Time: (15								
MS/MSI						MS/MSD: (Yes) No Duplicate: (Yes) No									
Other:					D	uplicate ID	TS3	31002			Du	p. Time:			
OVERSIGHT SAMPLE	ID:		TIM	E:	S	ampled By	MEL	/		g Re	eviewed By	ME	V	MA	
All sample							1.11	mdos COC t	TAL of	Saut	th Durlingt	on Vorme	A-		

## **ARCADIS**

## **Attachment 3B**

Groundwater and Surface Water Sampling Logs – Quarter 2 – June/July 2009

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	M. KOHA	3EN				١	Well ID:	1W-1	. (					
Client / Job Number:	B006453	9.0000 Tas					Date: -	- 7	101/009					
Weather: 70° F	OVER	CAST, 1	MOD W	~D		1	Time In:	430	Time	Out:	530			
Well Information		775			-	Mall Tunes							1	
Depth to Water:	(feet)	1.15		(TIC)		Well Type:			Flushmo	unt □	St	ick-Up	<u> </u>	
Total Depth:	(feet)	497		(TIC)	-	Well Mater	PVC							
Length of Water Column:	(feet)	0.81			-	Well Locked: Yes No								
Volume of Water in Well:	(gal)	2.43				Measuring	Point Marke	ed:	Y	es 🛮		No		
Three Well Volumes:	(gal)	400	mp on	B 14	135	Well Diame	eter:	1"		2° V)	Other:			
Purging Information		, ,	OF.	FOIL	00									
Purging Method: (Peristaltic Pump)	Barnant	G	eoPump [	5	Submersible	Other	r.			T T	sion Fac		1	
Tubing Material:	Silicone	Po	lyethylene		Teflon	Other	gal / ft. of water	1° ID	2° ID 0.163	4" ID 0.653	6" ID			
Sampling Method:	Barnant		GeoPump	S	ubmersible	0.041 0.163 0.								
Duration of Pumping:	(min)	85	S						11.74.04	L:014 1407		UDIT!	of NTU	
Average Pumping Rate:	(ml/min)			ater-Qualit	ty Meter Type	YSI-	556 & Ha	ch	pH pH	bility, WI	Cond		ORP	
		2					2100P		∀ 0.1	∀ 10%	∀ 3.0	_	/ 10 mV	
Total Volume Removed:	(gal)	2.2	5	D	old well go dry	: Yes	No	)						
	1	2	3	4	5	6	7		8 9	1	0	11	12	
Time:	1445	1450	1455	1500	1505	1510								
Volume Purged (L)	1.00	1.50	2.00	250		3.50	\	P	1					
Rate (mL/min)	100	100	100	100	100	100								
Depth to Water (ft.)	7.77	7.77	7.77	7.77	7.77	7.77								
рН	7.54	7.55	753	7.53	7.50	7.47								
Temp. (C)	14.84	14.80	14.64	14.52	14.39	14.62	5 000		X	M				
Conductivity (mS/cm)	0.812	0.872	0.873	0.874	0.876	0.875			1	1				
Dissolved Oxygen	0.30	0.36	0.28	0.20	0.21	0.23					1			
ORP (mV)	-113.1	-107.9	-108.2	-106.3	-109.0	-107.8								
Turbidity (NTU)	6.10	4.88	3.80	7.12	2.01	1.80	Best 1							
Notes:						1								
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	lyses	# of Contai	ners	Analyses			# of Conta	iners	
Initial Purge: CLEAR,					TOCs (40 ml with	H₂SO₄)	2		Chloride, Sult Alkalinity. (250 ml)	fate, &		1		
Final Purge: OEAR	NO 0	DOR.			TSS (I L Poly)		1		Total Metals (250 ml with I	HNO <sub>3</sub> )		1		
Well Integrity Informatio	<u>0</u>				PCBs (Tota (Amber)	1)	2		TDS (250 ml)		1	1		
Surface Seal Condition (concrete pad, bolts, manhole cover):						INC	LUDE OVE	RSIGHT S	SPLIT IN AM	OUNT TO	TALS			
Locking Protective Well Ca		Sample ID:	Tene	370		Sa	ample Time	: [[	10					
Well Lock Present? V65		MS/MSD:	TS4 O	No)	. Dup	olicate:	Yes	No	.0					
Other:		60	OD		Duplicate ID	):	NA		Du	ıp. Time:	NA			
OVERSIGHT SAMPLE	ID:		TIME	:	Sampled By	· M	V	Log	Reviewed B	y:				
PGW-MW1-01		15	10	All samples submitted under COC to TAL of South Burlington, Vermont.										

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:						•		4W-0						
Client / Job Number:		9.0000 Tas	sk 00500					-01-	-		2 / 5			
Weather: (04° (i	ght ro	ain					Time In:	1140	Time (	Out: /3	310			
Depth to Water:	(feet)	0.97		(TIC)		Well Type:			Flushmou	int 🗆	Stick-	Up √		
Total Depth:	(feet)	15.10		(TIC)		Well Material: Stainless Steel √ PVC □								
Length of Water Column:	(feet)	4.13				Well Locked: Yes No								
Volume of Water in Well:	(gal)	67				Measuring Point Marked: Yes ☐ No ☑								
Three Well Volumes:	(gal)	2.01			-	Well Diameter: 1° ☐ 2° √ Other:								
Purging Information														
Purging Method: (Peristaltic Pump)	Barnant [	Ge	eoPump	S	Submersible	Othe	r.			T	ion Factors			
Tubing Material:	Silicone	☐ Po	lyethylene		Teflon	Othe	r:		gal / ft. of water	1" ID 0.041		ID 6" ID 553 1.469		
Sampling Method:	Barnant		GeoPump	□ s	ubmersible	Othe	r: •				0.163 0.6 5 ml = 0.133			
Duration of Pumping:					Unit Ctal	L:1:4. 14/1T	U TURRINI	TV <5 NTU						
Average Pumping Rate:	y Meter Type	YSI-	556 & Ha 2100P	ch	pH pH	DO DO	H TURBIDI Cond.	ORP						
Total Volume Removed:	id well go dry	r: Yes	(No		∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV						
Total Volume Nemoved.	(gal)	2.3			id well go di y	. 163	CNO							
	1	2	3	4		6	7	8	9	10	0 1	1 12		
Time:	1155	1200	1205	1210		1220	1775	1230						
Volume Purged (L)	1	1.5	2	2.5	3	3.5	4	4.5	:					
Rate (mL/min)	100	100	100	100	100	100	100	100						
Depth to Water (ft.)	721099	110.99	10.99	10.99		10.99	10.99	10.99						
pH	7.74	1.84	7.89	7.89	7.90	7.89	7.90	7.91						
Temp. (C)	13.69	13.64	13.62	13.49		13.40	13.41	1345						
Conductivity (mS/cm)	1.172	1.122	1.122	1.125		1.126	1.126	1.125						
Dissolved Oxygen	180	158	,47	.41	.41	.33	,34	.33						
ORP (mV)	-77.0	-80.9	-77.1	-80.5		-71.6	-71.4	-65.7						
Turbidity (NTU)  Notes:	2.96	2.32	1.84	1.20	1.03	.94	.81	.78						
Pump onell	110	0	((0						1					
Purge Water Description		Pump		1305	Anal	lyses	# of Contain	ners	nalyses		# o	ntainers		
Initial Purge: Clear	, no	odor			TOCs (40 ml with	H₂SO₄)	2	All	iloride, Sulfa calinity. 50 ml)	ate, &	1			
Final Purge: Clear	, 110	odor	-		TSS (I L Poly)		1	To	tal Metals 50 ml with F	INO <sub>3</sub> )	1			
Well Integrity Information						1)	2	TO	Decide in the State		1			
Surface Seal Condition (concrete pad, bolts, manhole cover):						INC	LUDE OVER			OUNT TOT	ALS			
Locking Protective Well Ca	ocking Protective Well Cap/expansion plug:							0						
Well Lock Present? Yes	Lock Cond	ition: 90	od		Sample ID: T540079 Sample Time: 12:30  MS/MSD: Yes No Duplicate: Yes No									
Other:		0			Duplicate ID	): •\ (	4		Du	p. Time:	ALCA			
OVERSIGHT SAMPLE	ID:		TIME		Sampled By	10/	Pt I ···	Log R	eviewed By		NIA			
N/A			N/A		All samples	4.01	nder COC to				nt.			

## Kalamazoo River Study Group – Plainwell TCRA,

#### GROUNDWATER SAMPLING LOG

Plainwell, Michig	an											
Sampling Personnel:	A.ON	اند				,	Well ID:	1W-(	03			
Client / Job Number:	B006453	9.0000 Tas	k 00500				Date: 7	-01-				
Weather: 63° Well Information	overco	ist					Time In: (	0930	Time C	out: //3	5	
Depth to Water:	(feet)	7.84		(TIC)		Well Type:			Flushmour	nt 🗆	Stick-Up	√_
Total Depth:	(feet) /	3.75		(TIC)		Well Mater	rial:	5	Stainless Stee			
Length of Water Column:		3.91				Well Locke	ed:		Ye	s D	No	
Volume of Water in Well:	(gal) e	63		<u> </u>		Measuring	Point Mark	ed:	Ye	s 🗆	No	
Three Well Volumes:	(gal) [	٠٩				Well Diam	eter:	1"	<b>6</b> □	2" √	Other:	
Purging Information												
Purging Method: (Peristaltic Pump)	Barnant	Ge	oPump [	√ Sı	ubmersible	Othe	r.				on Factors	6° ID
Tubing Material:	Silicone	Po	yethylene		Teflon	Othe	r.		gal / ft. of water		0.163 0.653	
Sampling Method:	Barnant		GeoPump	☑ Su	bmersible	Othe	r:		1 gal = 3.7	'85 L =3785	5 ml = 0.1337 c	ubic feet
Duration of Pumping:	(min)	110							Unit Stah	ility WITH	TURBIDITY	<5 NTII
Average Pumping Rate:	(ml/min)	100	w	ater-Quality	Meter Type	YSI-	556 & Ha 2100P	ach	pH	DO	Cond.	ORP
Total Volume Removed:	(gal)	290		Dio	d well go dry:	: Yes	No	3	∀ 0.1	∀ 10%	∀ 3.0% \	√ 10 mV
	1 1	2	3	4	5	6	7	8	9	10	11	12
Time:	0945	0950			1025		1035	1040	1			
Volume Purged (L)	1	1.5	2	2.5	5	5.5	6	6.5	7	\		
Rate (mL/min)	100	100	100	100	100	160	100	Mil million for	100	1		
Depth to Water (ft.)	9.86	100	100	100	9.86	9.86	9.86	9.86	9.86	1		
pH	1.80	YSI	Mainte	manc		7.88	7.92	7.96	7.98	1	<b>V</b>	
Temp. (C)	14.73			d for f	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	to see the second second	14.21	14.10	14.13		10	
Conductivity (mS/cm)	1.111		DC, who		1.029	1.017	1.008	1.007	1.006	(		
Dissolved Oxygen	181				,38	.41	.46	241	.38			
ORP (mV)	-53.4				-78 %	-72.3	-70.3	-71.3	-66.8			
Turbidity (NTU)	16.4		1000		1.87	1.65	1.48	1.71	191			1
Notes:	10:1				101	1.00	1,10	11.01				1
Pump on 09 Purge Water Description				30	Anal	yses	# of Contai	ners A	nalyses		# of Conta	iners
Initial Purge: Clar			Other.		TOCs (40 ml with I	1507	2		hloride, Sulfa lkalinity.	te, &	1	
Final Purge: Clar			_		TSS	12304)	1	Ť	otal Metals	NO.		
Well Integrity Information		Baor			(I L Poly) PCBs (Total	)	^	Т	DS	NO <sub>3</sub> )	1	
Surface Seal Condition (co	oncrete pad, b	olts, manhol	e cover): O		(Amber)	INC	LUDE OVE		PLIT IN AMO	UNT TOTA	1	
Locking Protective Well C	ap/expansion	plug: 900	xcl	'  -	Cample ID:							
Well Lock Present? 125	Lock Condi	tion: Q o	scl	-	Sample ID:	1 5 9 Yes	(NO)	7 Dupli			1045	
Other:		5.0			MS/MSD: Duplicate ID		ne com					
OVERSIGHT SAMPLE	ID:		TIME:		Sampled By		NIA	Log F	Reviewed By:		NIA	
PGW-MW3-	01	ı	045			A.O.V	Jeil nder COC to		outh Burlingto		t.	
					J				23910	,		

## Kalamazoo River Study Group – Plainwell TCRA,

## GROUNDWATER SAMPLING LOG

Plainwell, Michiga	A .	.1						11.1.6	14					
Sampling Personnel:	4.0'Ne	9.0000 Tas	k 00500				Nell ID: M	30-6	9					
Client / Job Number: Weather: 67° OV			K 00500					320	Time	Out: /4	145			
Well Information	ercon													
Depth to Water:	(feet)	1.15		(TIC)		Well Type:			Flushmou	int 🗆	s	tick-Up	1	
Total Depth:	(feet)	4.44		(TIC)		Well Mater	ial:	S	tainless Ste	el V		PVC		
Length of Water Column:	(feet) 3					Well Locke	ed:		Y	es 📝	,	No		
Volume of Water in Well:	(gal)	53				Measuring	Point Marke	ed:		es 🗆		No	<b>V</b>	
Three Well Volumes:	(gal)	1.10				Well Diame	eter:	1"		2" √	Other:			
Purging Information														
Purging Method: (Peristaltic Pump)	Barnant	] Ge	eoPump [	s s	ubmersible	Other	r.		110	Conver	sion Fac	4" ID	6" ID	
Tubing Material:	Silicone	Po	lyethylene		Teflon	Other	r:		gal / ft. of water	0.041	0.163	0.653	1.469	
Sampling Method:	Barnant		GeoPump	Su	ubmersible	Other	r.		1 gal = 3	.785 L =37	'85 ml = 0	).1337 cu	bic feet	
Duration of Pumping:	(min)	85							Unit Sta	bility WI	TH TURI	TH TURBIDITY <5 NTU		
Average Pumping Rate:	(ml/min)	100	w	ater-Quality	Meter Type		556 & Ha 2100P	ch	pH	DO	Con		ORP	
Total Volume Removed:	(gal)	2.24		Di	d well go dry		No	7	∀ 0.1	∀ 10%	∀ 3.0	)% ∀	10 mV	
								_						
	1000	2	3	4	5	6	7	8	9		10	11	12	
Time:	1335	1340	1345	1350	and the second	1400								
Volume Purged (L)	1.	1.5	2	2.5	3	3.5	1		:					
Rate (mL/min)	100	100	100	100	100	100								
Depth to Water (ft.)	11.16	11.16	11.16	11.16	-	11.16	20-2	1						
pH	1.17	7.20	7.18	7.17	1.17	7.16		`	1					
Temp. (C)	15.73	15.70	15.67	15.62		15.52			A	0				
Conductivity (mS/cm)	1.090	1.089	1.087	1.084	1.087	1.085			1/0	X				
Dissolved Oxygen	1,49	.60	.48	.39	.38	.33			V	1				
ORP (mV)	-80.2	-79.9	-80.D	-80:3	-80.2	-80.0					1			
Turbidity (NTU)	7.83	6.48	5.49	4.08	3.25	3.42								
Notes:													\	
Pump on @ 1: Purge Water Description	325	Pump	offei	435	Anal	yses	# of Contain	ners A	nalyses			# of Contai	iners	
Initial Purge: Clear,	1		. Other.)		TOCs			С	hloride, Sulf	ate, &		1		
Final Purge: Clear,					(40 ml with I	H <sub>2</sub> SO <sub>4</sub> )	2	(2	50 ml) otal Metals			1		
Well lategrity Informatio					(I L Poly) PCBs (Total	)			50 ml with I	HNO <sub>3</sub> )		1		
	Surface Seal Condition (concrete pad, holts, manhole cover): 9,000						2	CONTRACTOR OF STREET	50 ml)			1		
	ncking Protective Well Caplesquession plug. Good						LUDE OVER	RSIGHT SE	PLIT IN AMO	OUNT TO	TALS			
Wall Look Drough . C. C			1	388	Sample ID: T540025 Sample Time: 1400									
The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa	Lack Cond	you	a		MS/MSD:	Yes	No	Dupli	cate:	Yes	6			
Other:					Duplicate ID	t	-		Du	p. Time:	-	-		
OVERSIGHT SAMPLE	D:		TIME:		Sampled By	A.O.A	Voil	Log F	Reviewed B	y.				
NA			NIA		All samples	submitted un	nder COC to	TAL of So	outh Burlingt	on, Verm	ont.			

Kalamazoo River Study Group – Plainwell TCRA,

#### **GROUNDWATER SAMPLING LOG**

Plainwell, Michiga	n /	*										
Sampling Personnel:	1. KONA	82				. 1	Well ID:	W-5				
Client / Job Number:	B006453	9.0000 Tas	k 00500					30/09				
Weather: 65°F	Y PAR	724 CLO	507, M	OD Wi	uD Gu		Time In: 1;	300	Time C	out: +	1615	
Well Information		1147				Marin Transaction						-1
Depth to Water:	(1004)	11.02		(TIC)		Well Type:			Flushmou	nt □	Stick-Up	<u> </u>
Total Depth:	(feet)	3.21		(TIC)	-	Well Mater	PVC					
Length of Water Column:	(feet)					Well Locke	ed:		Ye	es 🛮	No	
Volume of Water in Well:	(gal)	0.52				Measuring	Point Marke	ed:	Ye	s 🗹	No	
Three Well Volumes:	Pomp	* N (3)	1305			Well Diam	eter:	1"	0 /	2" 7 0	ther:	
Purging Information	1000	OFF 6		3 -					,			
Purging Method: (Peristaltic Pump)	Barnant [		eoPump		ubmersible	Othe	r.			Conversio	n Factors	6" ID
Tubing Material:	Silicone	☐ Po	lyethylene		Teflon	Othe	r:		gal / ft. of water		163 0.653	
Sampling Method:	Barnant		GeoPump	S	ubmersible	Othe	r:		1 gal = 3.7		ml = 0.1337 c	
Duration of Pumping:	(min)	185	2.							1114 . 140 Th	TUDDIES	of NT
Average Pumping Rate:	(ml/min)	100	W	ater-Qualit	Meter Type	YSI-	556 & Ha	ch	pH pH	DO DO	TURBIDITY Cond.	ORP
		100					2100P	_	∀ 0.1			√ 10 mV
Total Volume Removed:	(gal)	4.89		Di	d well go dry	: Yes	No	3_				
	1	2	3	4	5	6	7	8	9	10	11	12
Time:	1315	1320	1325	1330	1335	1345	1350	1355	1400	1405	1410	1
Volume Purged (L)	1.00	1.50	2.00	2.50	300	4.00	4.50	5.00	5.50	6.00	6.50	
Rate (mL/min)	100	106	106	100	100	100	100	106	100	100	100	
Depth to Water (ft.)	11.03	11.83	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03	11.03	
рН	7.61	7.53	7.52	7.53	7.52	743	743	743	7.41	7.43	7.42	1
Temp. (C) 15.68		16.10	15.83	15.6	1501	15 M	14.83	14.85	1494	14.84	14.62	(A)
Conductivity (mS/cm)	1.109	1.098	1.092	1.093	1.091	1.084	1.084	1.083	1.079	1.079	1.077	1
Dissolved Oxygen	0.31	0.32	0.34	0.25	0.19	035	0.18	0.20	0.14	0.14	0.15	
ORP (mV)	-77.6	-799	-78.8	-81.9	-797	-78.8	-757	-74.9	-756		-80.6	1
Turbidity (NTU)	35.0	28.1	24.9	21.2	18.0	9.75	8.88	4.98	4.60	4.36	3.67	1
Notes:	02:0	22.1		2	CLEANED	1012	0.00	1, 10	1.00	1.00	7.61	1
				- F	FIC							
Purge Water Description (	Color? Od	or? Turbid	? Other?)		Anal	yses	# of Contain	ners A	nalyses		# of Conta	ainers
Initial Purge: SLT C	LOUDY,	100 00	cR		TOCs (40 ml with l	H₂SO₄)	6	Al	hloride, Sulfa kalinity. 50 ml)	ite, &	3	
Final Purge: CUEAR					TSS (I L Poly)		3	To	otal Metals 50 ml with H	NO <sub>3</sub> )	3	
Well Integrity Information	1				PCBs (Total (Amber)	)	6	TI	OS 50 ml)		3	
Surface Seal Condition (con-	crete pad, b	0000		INC	LUDE OVER		LIT IN AMO					
Locking Protective Well Cap	p/expansion	plug: Ga	0		Sample ID:	TSUC	Head		San	nple Time:	1410	
Well Lock Present?	Lock Cond	-			MS/MSD:	Dupli		-	6			
Other: 145		(300)	0		Duplicate ID: PA Dup. Time: PA							
OVERSIGHT SAMPLE II	D:		TIME		Sampled By		0/	Log F	Reviewed By		/	
4/4			410		All samples	submitted in	nder COC to	TAL of So	uth Burlingto	on, Vermont	2	
				L					3.0			

## ARCADIS

## Water Sampling Log

Project No.	B064539.00.500 Page 1 of Z
Site Location Plainwell, MI	Date 7-01-09
Site/Well No. MW - O(6 Replicate N	o. <u>N/A</u> Code No. <u>N/A</u>
Weather 105° overcust Sampling Ti	me: Begin 1355 End 1505
Evacuation Data	Field Parameters
Measuring Point TOC	Temperature (°C) 13.00
MP Elevation (ft)  N/A	SpC (mS/cm) . 9 69
Land Surface Elevation (ft) N/A	CND (mS/cm) .747
Sounded Well Depth (ft bmp) 15.85	Dissolved Oxygen (%) 2.4
Depth to Water (ft bmp) 10.85	Dissolved Oxygen (mg/L) . 26
Water-Level Elevation (ft)	pH (s.u.) 8.22
Water Column in Well (ft) 5.0	ORP (mV)78.4
Casing Diameter/Type  2" Stainless Steel	Turbidity (NTU) . 86
Gallons in Well	Color <u>Clear</u>
Gallons Pumped/Bailed	Odor
Prior to Sampling 1.8	Appearance Clar
Sample Pump Intake Setting (ft bmp)  174 bmp	Sampling Method Low Flow Con
Purge Time begin 1315 end 1505	Remarks * Supe-2 collected purifice Th-TS40030
Pumping Rate (ml/min)	ID-TS40030 3061
Evacuation Method peristaltic pump	DUPE ID - T540031 (mg
Constituents Sampled Container Description	Number Preservative
Tocs 40ml VOA	4 HzSO4
TSS IL poly	<del> 2</del>
PCBs 12 amber	
Chloride, Sulfate? Alkalinty 250ml poly	
Total Metals 250mlpoly	_ 2 HNO3
TDS 250 ml pol	y <u> </u>
Sampling Personnel A. O'Nail	
Well Casing Volumes  Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.3	37 4" = 0.65
1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0	0.50 6" = 1.47
bmp Below measuring point mL Milliliter  °C Degrees Celsius mS/cm Millisiemens per centimete	NTU Nephelometric turbidity units
	PVC Polyvinyl chloride
ft Feet msl Mean sea level	s.u. Standard units
ft Feet msl Mean sea level gpm Gallons per minute N/A Not applicable mg/L Milligrams per liter NR Not recorded	(MIGRIC OFFICIALITY MORPHS) 전 12.00 (1986) T.C. GRENEGO (MIGRIC OFFICIALITY MORPHS) HINDER (MIGRIC OFFICIALITY MORPHS)

#### **ARCADIS**

## YSI/LOW FLOW SAMPLING LOG

PAGE Z OF Z

WELL: MW-06 PROJ#: B0064539.0000.00500

LOC: Plainwell, MI DATE: 7-01-09

	1-01	01				LIGHT	swell,	1-1-4-			
Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	рН	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW	VOL -
1325	13.36	.974	.756	6.1	.64	8.00	-68.3	100	3.18	10.86	1
1330	13.22	.971	.753	5.4	.56	7.84	-77.8	100	2.49	10.86	1.5
1335	13.11	.970	.750	4.2	.45	8.13	-80.8	100	1.98	10.87	Z
1340	13.05	.969	,748	3.7	.40	8.18	-71.2	100	1.76	10.88	2.5
1345	CONTRACTOR OF THE RESERVE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH	.969	.749	3.0	. 32	8.21	-78.7	100	1.23	10.88	3
1350	12.97	.970	.747	2.8	.30	8.72	-83.9	100	1.01	10.88	
1355		THE OWNER TO PERSON A RESIDENCE FOR THE PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PERSON AS A PE	.747	2.4	.26	8.22		100	.86	10.88	
											-
											•
											14.
		<b>N-D</b>									
Total Dept	h of Well:	10.85	15.85								
Depth To	Water Befo	re Purging:	10.85								
Depth To	Water After	Purging:	10.88								

## **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	M. KOHA		A. L. A. S.			- 1	Well ID:	NW-7						
Client / Job Number:		9.0000 Tas					Date: 7	01/09						
Weather: 60°, over	CAST,	LT Wins	>,				Time In: \	140	Time C	out: [	330			
Depth to Water:	(feet)	11.30		(TIC)		Well Type			Flushmou	nt 🗆	9	tick-Up	V	
Total Depth:	(feet)	14.68		(TIC)	-	Well Mate			Stainless Steel V PVC					
Length of Water Column:	(feet)	3.38				Well Locke		3				No		
Volume of Water in Well:	(gal)	0.55				163								
Three Well Volumes:	(gal)	1-65							Ye	1	011	No		
	Pui		0 1175			Well Diam	eter.	1*		2" V	Other:			
Purging Information		OFF	0 131	-			ORDER OF			_				
Purging Method: (Peristaltic Pump)	Barnant	] Ge	eoPump [	S	Submersible	Othe	er:			1" ID	sion Fac	4" ID	6" ID	
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	er.	gal / ft. of water	0.041	0.163	0.653	1.469		
Sampling Method:	Barnant		GeoPump	S	ubmersible	Other: 1 gal = 3.785 L =3785 ml =								
Duration of Pumping:	(min)	110												
Average Pumping Rate:	(ml/min)	i sinesidi.	14	later Qualit	y Meter Type	YSI-	-556 & Ha	Unit Stat				The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s		
Average Fullipling Rate.	(HWHIII)	100	•	valer-Qualit	ly ivieter Type	2100P			pH ∀ 0.1	DO ∀ 10%	V 3.0		ORP / 10 mV	
Total Volume Removed:	(gal)	2.9		D	id well go dry	Yes	No	)	V 0.1	V 10%	V 3.0	170	10 mv	
	1	2	3	4	5	6	7	8	9	1	10	11		
Time:	1145	1155	1200	1205	1210	1215	1220	1225	1230				1	
Volume Purged (L)	7.00	3.00	3.50	4.00	4.50	5.00	5.50	6.00	:6.50				1	
Rate (mL/min)	100	100	100	100	100	100	100	100	(00			MA	/	
Depth to Water (ft.)	11.31	11:31	11.31	11.31	11.31	11.31	11.31	11.31	11.31			/		
pH	7.40	7.41	7.42	7.42	7.42	7.43	7.43	7.42	7.41			1/		
Temp. (C)	1311	13.18	13:46	13.87	13.81	13.57	13.61	13.40	13.47		M			
Conductivity (mS/cm)	1.039	1.019	1.011	1.013	1.012	1.004	1000	0.999	0.997		X			
Dissolved Oxygen	0.43	0.54	0.51	0.32	0.53	0.28	0.21	0.20	0.20		/			
ORP (mV)	-51.4	-60.5	-63.2	-60.0		-68.6	-71.5	-73.8	-75.4	/				
Turbidity (NTU)	25.5	16.7	13.2	11.1	832	107	4.84	4.52	3.51	/-				
Notes:	727	10.1	12.6	11.1	0.04	(0.41	1.0.1	1.0	2.01					
Purge Water Description	(Color? Od	or? Turbid	2 Other?)		Anal	yses	# of Contai	ners A	nalyses			# of Conta	iners	
Initial Purge: CLOUPY		3008	. Other . 7		TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	All	nloride, Sulfa kalinity.	ite, &	1			
Final Purge: Curat	, 20 0	Dop			TSS		1	To	otal Metals	NO	1			
Well Integrity Information	200316	1			(I L Poly) PCBs (Total (Amber)	)	2	TC	50 ml with H DS 50 ml)	NO <sub>3</sub> )	1			
Surface Seal Condition (co	ncrete pad, b	olts, manho	le cover):		(Amber)	INC	LUDE OVE	<u> </u>		UNIT TO	TALC			
ocking Protective Well C	ap/expansior	plug:	. (	2000		INC	LUDE OVE	KSIGHT SP	LII IN AWO	UNITO	IALS			
Well Lock Present?	Lock Cond	00	NO Y		Sample ID:	TS40 Yes	0			nple Time	260	6		
Other:	X45 GOD						No	Duplio		Yes	(No			
OVERSIGHT SAMPLE	VERSIGHT SAMPLE ID: TIME:						Duplicate ID: PA Dup. Time: PA							
JULIAN SAMPLE		Sampled By	ME	K	Log F	Reviewed By	ME	<						
			NA											

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	BOOKAS3	9.0000 Ta:	k 00500				Date: A7/	31 00					Sales Sales II	
Client / Job Number:	CRCAST		JIND				Time In:	11 15		Time (	Out: 11	15		
Well Information								100						
Depth to Water:	(feet)	7.89		(TIC)		Well Type				Flushmou	nt 🗆	S	Stick-Up	$\checkmark$
Total Depth:	(feet)	8.46		(TIC)		Well Mate	rial:		Sta	ainless Ste	el $\sqrt{}$		PVC	
Length of Water Column:	(feet)	8.57			_	Well Locke	ed:			Ye	es 🗈		No	
Volume of Water in Well:	(gal)	1.40				Measuring	Point Marke	ed:		Ye		_	No	П
Three Well Volumes:	(gal)	4.19			<u>.</u>	Well Diam			1"		2° V	Other:		
Purging Information	Po	MP ON		140					•		2 1)			
Purging Method: (Peristaltic Pump)	Barnant	SHEET HER THE PARTY SAN		-	Submersible	Othe	r:		[		Conver	sion Fa	ctors	
Tubing Material:	Silicone	☐ Po	lyethylene	П	Teflon	Othe	r:			gal / ft. of water	1° ID	2" ID	4" ID	6" ID
Sampling Method:	Barnant	П	GeoPump	S	Submersible	Othe	r.			1 gal = 3.	0.041 785 L =37	0.163 '85 ml = 0	0.653 0.1337 ct	1.469 ubic feet
Duration of Pumping:	(min)	90												
Average Pumping Rate:	(ml/min)	100	W	Vater-Quali	ty Meter Type	YSI-	556 & Ha	ch	-	Unit Stat				
	(1111/1111/						2100P	0	+	pH ∀ 0.1	DO ∀ 10%	Con ∀ 3.0	100000000000000000000000000000000000000	ORP 10 mV
Total Volume Removed:	(gal)	2.39	3		Did well go dry	Yes	No	)	L	V 0.1	V 1076	V 3.1	276   0	101110
	1	2	3	4	5	6	7		8	9		10	11	12
Time:	0950	1000	1005	1015	1020	1025								
Volume Purged (L)	1.00	2.00	2.50	3.50	4.00	4.50		Ma					/	
Rate (mL/min)	100	100	100	100	100	100						/		
Depth to Water (ft.)	9.89	9.89	9.89	9.89	9.89	9.89					/			
pH	7.36	7.43	7.42	7.41	7.40	7.40				10	D			
Temp. (C)	14.3	14.17	14.06	14,10	14.08	14.13				ME	/			
Conductivity (mS/cm)	1.054	1.055	1.054	1.056		1.053				1				
Dissolved Oxygen	2.12	0.24	0.31	0.22		0.20		/						
ORP (mV)	-12.7	-75.5	-78.1	-76.9	-75.4	-75.7	7							
Turbidity (NTU)	THE RESIDENCE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF T					351	/							
Notes:	26.8	14.6	9.90	4.97	4.55	221								
			STILL.											
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	# of Contai	ners	An	alyses			# of Conta	iners
nitial Purge: ( 18004	, No 0	pae			TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2		Alk	oride, Sulfa alinity.	ate, &		1	
	10 OP				TSS (I L Poly)		1	2.7	Tot	0 ml) al Metals 0 ml with H	NO <sub>2</sub> )		· /	
Well Integrity Informatio	l Integrity Information PCI					)	2		TD			1		
urface Seal Condition (con	(Ambe						LUDE OVER	RSIGHT			UNT TO	TALS		
	ing Protective Well Cap/expansion plug: Samp								-					
Well Lock Present?	ell Lock Present? Lock Condition:					TS400 Yes	)2(e)	Di	uplica		nple Tim Yes	e: 162	25	
Other: VES	4/2				Duplicate ID:									
WERSIGHT SAMPLE	ID:		TIME	:	Duplicate ID:  Dup. Time:  Log Reviewed By:									
N	A		NI	A	All samples submitted under COC to TAL of South Burlington, Vermont.									
	All sam				All camples	cubmitted u	ndor COC to	TAL of	Cour	th Durlingto	n Vorm	ont		

Kalamazo	o River Study
Group - F	Plainwell TCRA
Plainwell,	Michigan

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	N.O.V	eil				. 1	Well ID: MY	1-00	7				
Client / Job Number:		9.0000 Tas	k 00500			ı		1-50					
Weather: 640 OVS	ercast						Time In: 09	05	Time	Out: 16	30		
Depth to Water:	(feet)	4.69		(TIC)		Well Type:		Mar-	Flushmo	ount 🗆	St	ck-Up	
Total Depth:	(feet)	9.49		(TIC)		Well Mater	ial:	5	Stainless St		PVC		
Length of Water Column:	(feet)	4.8				Well Locke	ed:			Yes 🗹		No	
Volume of Water in Well:	(gal)	78				Measuring	Point Marked:	Salt.		Yes 🗌		No	0
Three Well Volumes:	(gal) ó	1.34				Well Diam	eter:	1"		2" √	Other:		
Purging Information													
Purging Method: (Peristaltic Pump)	Barnant [	Ge	eoPump [	√ s	ubmersible	Othe	r			Conver	sion Fac	tors	6* ID
Tubing Material:	Silicone	☐ Po	lyethylene		Teflon	Othe	r.		gal / ft. of water	No. of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of	0.163	0.653	1.469
Sampling Method:	Barnant		GeoPump	St.	ubmersible	Othe	r.		1 gal = 3	3.785 L =37	85 ml = 0.	1337 cu	ibic feet
Duration of Pumping:	(min)	85							Unit %	ability, WI	מפויד עד	י עדומו	<5 NTII
Average Pumping Rate:	(ml/min)	100	W	Vater-Quality	Meter Type:	YSI-	556 & Hach 2100P		pH	DO DO	Cond		ORP
Total Volume Removed:	(gal)	2.2	4	Di	d well go dry:	Yes	(No)		∀ 0.1	∀ 10%	∀ 3.0	% \	′ 10 mV
							7.1				10.1	44	41
Ti	0925	0930	0935	0940	0945	0950	0955	8		9 1	10	11	12
Time: Volume Purged (L)	1	1.5	2	2.5	3	3.5	4	\					
Rate (mL/min)	100	100	100	100	100	100	100	1					
Depth to Water (ft.)	14.70	14.70	14.70	14.77		14.70	14.70		1				
рН	7.21	7.32	7.35	7.36		7.37	7.36		1	1			
Temp. (C)	11.96	11.87	11.81	11.80	11.73	11.71	11.69			N	)		
Conductivity (mS/cm)	.877	.857	, 849	.843	.838	.837	.837			V.			
Dissolved Oxygen	,51	.39	.34	,29	. 29	. 29	.31			9	1		
ORP (mV)	-66.9	-21.8	-10.9	-8.9	-18.3	-17.6	-16.2					1	
Turbidity (NTU)	6.39	5.18	3.49	3.06	2.42	1.01	1.42						/
Notes:													1
Pump on 091 Jurge Water Description		or? Turbid	? Other?)		Anal	yses	# of Containe	rs A	nalyses			f of Conta	iners
nitial Purge: Clear	100	odor			TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	A	hloride, Su lkalinity. 250 ml)	lfate, &		1	
inal Purge: Clear					TSS (I L Poly)		1	T	otal Metals 250 ml with			1	
Vell Integrity Informatio					PCBs (Total (Amber)	)	2	1000	DS 250 ml)			1	
urface Seal Condition (con	pod		INC	LUDE OVERS			OUNT TO	TALS	-				
ocking Protective Well Ca	p/expansion	plug: 90	od `		Sample ID:	TKU	0000		S	ample Time	e: 0/	155	7
Well Lock Present? Yes Lock Condition: Good					MS/MSD:	Yes	0033	Dupl	icate:	Yes	<b>6</b>	17-	,
Other:					Duplicate ID		) /A		D	up. Time:	N/	4	
OVERSIGHT SAMPLE ID: TIME:				Sampled By		1	Logi	Reviewed E		- /	_		
	N/A N/A					7 7 6	10.1	A STATE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PAR	10 11 11 11 11 11 11 11 11 11				

Kalamaz	00	River	Study
Group -	Pla	inwell	TCRA

#### **GROUNDWATER SAMPLING LOG**

Plainwell, Michiga	in A													
Sampling Personnel:	A.01	Veil				·	Well ID: M	1W-	10	e ca Magazini				
Client / Job Number:		9.0000 Tas	k 00500					-30						
Weather: (05° 0) Well Information	verca	ST					Time In: /	115	Time	Out:				
Depth to Water:	(feet)	3.48		(TIC)		Well Type:			Flushmou	unt 🗆	S	tick-Up	1	
Total Depth:	(feet)	2450	0	(TIC)		Well Mater	ial:		Stainless Ste	eel V		PVC		
Length of Water Column:		3.97			_	Well Locke	ed:	Bill	Y	es 🗹		No		
Volume of Water in Well:		64			-	Measuring	Point Marke	ed:	Y	es 🗆		No		
Three Well Volumes:	(gal)	9			_	Well Diame	eter:	1		2" √	Other:			
Purging Information														
Purging Method: (Peristaltic Pump)	Barnant	Ge	eoPump	y :	Submersible	Other				Conver	sion Fac	tors	6* ID	
Tubing Material:	Silicone	☐ Pol	lyethylene		Teflon	Other			gal / ft. of water	0.041	0.163	0.653	1.469	
Sampling Method:	Barnant		GeoPump	✓ s	ubmersible	Other	r.		1 gal = 3	.785 L =37				
Duration of Pumping:	(min)	35							11-14-04-	6.11.4 JAH	TIL TUD!	NDITY.	e NTU	
Average Pumping Rate:	(ml/min)	100	W	/ater-Qualit	y Meter Type		556 & Ha	ch	pH pH	bility, WI	Con		ORP	
Total Volume Removed:	(ap)	00		-	id wall as day		2100P	_	∀ 0.1	∀ 10%	∀ 3.0		10 mV	
Total volume Removed.	(gal)	.42		L	id well go dry	. Tes	(NO	_						
	1	2	3	4	5	6	7		8 9		10	11	12	
Time:	1130	1135	1140	1145	1150	1155								
Volume Purged (L)	1	1.5	Z	2.5	3	3.5	1		1.					
Rate (mL/min)	100	100	100	100	100	100	1							
Depth to Water (ft.)	8.49	8,49	8.49	8.49	8.49	8.49		1						
рН	7.01	7.00	7.00	7.01	7.01	7.01			1	,				
Temp. (C)	14.31	14.08	14.18	14.21	14.19	14.05			AX	).				
Conductivity (mS/cm)	1.140	.907	1.145	1.144	1.43	1.145			144	1				
Dissolved Oxygen ms	1.11	,75	165	151	,43	.41				1				
ORP (mV)	-77.8	-79.7	-82.6			-76.5					1			
Turbidity (NTU)  Notes:	5.11	4.86	3.12	2.27	2.24	2.36					1	1		
Notes.													\	
Pump on ell Purge Water Description		or? Turbid	? Other?)		Ana	lyses	# of Contain	ners	Analyses			# of Contai	ners	
Initial Purge: Clear				xidity	TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	Z		Chloride, Sulf Alkalinity.	ate, &		ı		
Final Purge: Clear					TSS I L Poly)		1	nium s	(250 ml) Total Metals (250 ml with I	HNO <sub>3</sub> )		1		
Well Integrity Information					PCBs (Tota (Amber)	1)	2		TDS (250 ml)			1		
Surface Seal Condition (concrete pad, bolts, manhole cover): good						INCL	LUDE OVER	RSIGHTS	SPLIT IN AMO	OUNT TO	TALS			
Locking Protective Well Ca	p/expansion	plug: 90	od		Sample ID:					mple Time		55	-	
Well Lock Present? 725	Well Lock Present? Y25 Lock Condition: G DOC						Sample ID: T540023 Sample Time: 1155  MS/MSD: Yes Duplicate: Yes To							
Other:					Duplicate ID	):	_		Du	p. Time:	_			
OVERSIGHT SAMPLE I	D: (15)	5	TIME		Sampled By	Neil		Log	Reviewed By	ŗ:				
PGW - MW10-03	@ 1155	(du)	P)			1 ~ 1	nder COC to	TAL of S	South Burlingt	on, Vermo	ont.			

# ARCADIS

Water Sampling Log

Project Plainwell Site Legation Plainwell	Project No. 130045.39.	SOD Page 1 of Z Date 10-29-09
Site Location Panwell, MT Site/Well No. MW-11	Poplicate No. Al /A	
	Replicate No. N/A	
Weather Loss overcast	Sampling Time: Begin 153	SS End <u>1670</u>
Evacuation Data	Field Paramete	rs
Measuring Point TOC	Temperature (°C	14.24
MP Elevation (ft) N/A	SpC (mS/cm)	1.015
Land Surface Elevation (ft) N/A	CND (mS/cm)	,806
Sounded Well Depth (ft bmp) 12.95	Dissolved Oxyge	en (%) 3.6
Depth to Water (ft bmp) 7.49	Dissolved Oxyge	en (mg/L) , 37
Water-Level Elevation (ft) N/A	pH (s.u.)	1.23
Water Column in Well (ft)	ORP (mV)	177.6
Casing Diameter/Type	Turbidity (NTU)	3.88
Gallons in Well 2"stainless S	Color <u>(</u>	clear
Gallons Pumped/Bailed	Odor	none
Prior to Sampling 1.05	Appearance	clear
Sample Pump Intake Setting (ft bmp)  1ft bmp	Sampling Metho	
Purge Time begin 1455 end 11	Remarks San	mple ID: 7540019
Pumping Rate (ml/min)		
Evacuation Method peristaltic	Geo Pump)	
할머니는 살아보는 그렇게 하는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없다면 없다면 없다면 없다면 없다면 없다면 없다면 없다면 없다면 없다면	r Description Numb	11 60
		7 7204
TSS IL	Poly 1	
PCBs 12 16 to 2014 1 1 200	Amber d	
Chloride, Sulfate 3 Alkalinity 250	m poly 1	11.0.60
Total Metals 250		
TDS 250	m poly	
Sampling Personnel A. O'Neil		
Well Casing Volumes		
Gal./Ft. $0.5" = 0.01$ $1-\frac{1}{4}" = 0.06$ $2" = 0.1$ $1" = 0.04$ $1-\frac{1}{2}" = 0.09$ $2-\frac{1}{2}" = 0$		
bmp Below measuring point mL Milliliter	NTU N	lephelometric turbidity units
°C Degrees Celsius mS/cm Millisieme ft Feet msl Mean sea		olyvinyl chloride standard units
gpm Gallons per minute N/A Not applic mg/L Milligrams per liter NR Not record		ficromhos per centimeter  olatile organic compounds
ENFM006-Water Sampling Log.xls		Document #ENFM006, Revision 03

#### **ARCADIS**

# YSI/LOW FLOW SAMPLING LOG

PAGE Z OF Z

WELL: MW-II PROJ#: B00645.0039.00506

DATE: 6-29-69 LOC: Plainwell, MI

							. /				
Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pН	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW	VOL
1505	14.58	1.025	.870	11.0	1.09	7.23	-111.0	100	6.36	7.51	1
1510	14.83	1.019	.821	6.5	.66	7.24	-118.9	100	5.37	7.51	1.5
1515	14.64	1.015	,814	6.5	.60	7.24	-121.2	100	4.43	7.51	2
1520	14.62	1.017	.815	5.0	150	7.24	-119.7	100	3.64	7.51	2.5
1525	14.44	1.015	decrease and the second second	4.1	.42	7.23	-122.5	100	3.15	7.51	3
1530	14.45	TOTAL DISCUSSION OF STREET		3.7	.37	7. 23	-121.3	100	4.03	7.51	3.5
1535	14.24	1.015	1806	3.6	.37	7.23	-122.6	100	3.88	7.51	4
											-
								ī			
THE REPORT OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE											
							0.0				
								14			
	Male.										
Total Dept		12.95									
Depth To \	Water Before	re Purging:	7.49								
Depth To \			7.51								

Kalamazoo Rive Group – Plainwe	
Plainwell, Michig	
Sampling Personnel:	AOI
Client / Joh Number	B00645

### **GROUNDWATER SAMPLING LOG**

**Spring 2009 EVENT** 

Sampling Personnel:	H. UNI	211					Well ID: M		<u></u>				
Client / Job Number:	A CONTRACTOR OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH	7.0000 Tas			1		Date: 6 -	29-09	-		150		
Weather: 70° 0V	ercast	mo	derate	- win	Lq		Time In:	300	Time C	out: / 4	150	-	
Depth to Water.	(feet)	1.21		(TIC)		Well Type:			Flushmou	nt 🗆	Stick-	Un	V
Total Depth:	(feet)	1.98		(TIC)		Well Mater	rial:	SI	tainless Stee	.1		VC	П
Length of Water Column:	(feet)	1.72				Well Locke	ed:		Ye	5/		No	
Volume of Water in Well:	(gal)	44				Measuring	Point Marke	ed:	Ye			No	<u></u>
Three Well Volumes:	(gal) [ .	33				Well Diam				- 1	Other:	NO	
Purging Information							-			2 4	Calci.		
Purging Method: (Peristaltic Pump)	Barnant	] G€	oPump	y s	Submersible	Othe	r.			Conversi	ion Factor	s ID	6.
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	г.		gal / ft. of water			653	1.4
Sampling Method:	Barnant		GeoPump	y s	ubmersible	Othe	r. —				5 ml = 0.133		
Duration of Pumping:	(min)	55							Unit Stat	ility. WITI	H TURBIDI	TY <	5 NT
Average Pumping Rate:	(ml/min)	100	W	/ater-Qualit	y Meter Type	YSI-	556 & Ha 2100P	ch	pН	DO	Cond.	-	ORP
Total Volume Removed:	(gal)	1.45		- D	id well go dry	: Yes	No	)	∀ 0.1	∀ 10%	∀ 3.0%	A	10 n
	100	1270	1226	122-	5	6	7	8	9	1110		1	
Volume Purged (I.)	1315	1320	1325	1330		1340	1345	1350	1355	1400	NUMBER OF THE OWNER OF THE	12,	
Volume Purged (L)	100	1.5	2	2.5	3	3.5	4	4.5	5	5.5			
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100	The second second	-	
Depth to Water (ft.)	9.33	9.33	9.34	9.34	9.34	9.34	9.34	9.34	9.34	9.34		1	
pH	6.65	6.63	6.63	6.63	6.63	6.62	6.64	6.64	6.63	6.60			
Temp. (C)	20.36	20:30	20.23	30.3	Control of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the las	20.17	30.30	20.18	20.03	20.10	0	1	
Conductivity (mS/cm)	1.118	1.109	1.103	1.106		1.102	1.099	1.101	1.101	1.100	>	1	
Dissolved Oxygen 25	1.99	2.36	1.39	.97	1.79	.70	.60	.55	.48	.45			
ORP (mV)	109.1	112.3	112.8	113.1	113.1	113.5	112.9	113.2	112.9	112.2	-		
Turbidity (NTU)	187	.63	.54	153	.65	.57	,52	,55	.71	.57			
Notes:													
Pump on @: + Purge Water Description				@ 144¢	Anal	yses	# of Contain	ners Ar	nalyses		# o		ners
Initial Purge: Clear				bidita	TOCs (40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	All	loride, Sulfa	ite, &			
Final Purge: Clear	nood	or, le	ow to	rbidit			. 1	To	50 ml) tal Metals 50 ml with H	NO <sub>3</sub> )	1		
Well Integrity Informatio					PCBs (Total (Amber)	)	2	TD			1		
Surface Seal Condition (con	ncrete pad, bo	olts, manhol	e cover): O	good		INC	LUDE OVER			UNT TOTA	ALS		
Locking Protective Well Ca	ap/expansion	plug: 90	od		Sample ID:	TSU	0017		San	nple Time:	1400	_	
Well Lock Present? YLS	Lock Condi	tion: 90	od		MS/MSD:	Yes	6	Duplic			190	)	
Other:					Duplicate ID	: -			Dup	. Time:			
OVERSIGHT SAMPLE	D: PGW	-MWIZ	OTIME	1400	Sampled By	: Δ .	nlass	Log R	eviewed By:				
- PGW - MW12 > PGW - MW12			101		All samples	submitted u	nder COC to	TAL of Sou	uth Burlingto	n, Vermor	nt.		
1 200 110 12		10											

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	. O'Ne	il				,	Well ID:	1W-13	3				
Client / Job Number:		9.0000 Tas	k 00500		Salbibly		Date: 6	-30-0					
Weather: 63° OV	urcast						Time In: (	2915	Time	Out:	05		
Well Information	(foot) C	1.12			-	Well Type							1
Depth to Water:	(icci)	5.00		(TIC)		Well Type:			Flushmo	- 1	S	tick-Up	<u>v</u>
Total Depth:	(feet) (	5.88		(TIC)		Well Mate		S	tainless Ste		,	PVC	
Length of Water Column:  Volume of Water in Well:	(feet)	95			-	Well Locke	ed:		Ŋ	es 🗸		No	
Three Well Volumes:		1.87				Measuring	Point Mark	ed:	Y	es 🗌		No	
Times tvoi voidines.	(gai) &					Well Diam	eter:	1"		2" √	Other:		
Purging Information													
Purging Method: (Peristaltic Pump)	Barnant [	Ge	eoPump	V 5	Submersible	Othe	r:			Conver	sion Fac	tors	1
Tubing Material:	Silicone	☐ Po	lyethylene	П	Teflon	Othe	er:		gal / ft. of water	1" ID	2" ID	4" ID	6" ID
Sampling Method:	Barnant	П	GeoPump	N/S	ubmersible	☐ Othe	r:			0.041 .785 L =37	0.163	0.653	1.469
Duration of Pumping:	(min)	40							i gai = 3	.765 L =57	051111 = 0	.1337 cc	ibic feet
						YSI-	-556 & Ha	ch	Unit Sta	bility, WI	TH TURE	IDITY -	<5 NTU
Average Pumping Rate:	(ml/min)	100	W	/ater-Qualit	y Meter Type		2100P		pH	DO	Conc		ORP
Total Volume Removed:	(gal)	1.05		D	id well go dry	: Yes	No		∀ 0.1	∀ 10%	∀ 3.0	%   V	10 mV
	1 1	2	3	4	1 5	6	7	8	9	1	10.1	11	12
	0930		0940			APPROXIMATE TO A		•	9		10	"	12
Time: Volume Purged (L)	10130	0935	2	0945	CONTRACTOR OF STREET	0955	Englishes The Committee						
	1	1.5		7.5	3	35	4		-				/
Rate (mL/min)	100	100	100	100	100	100	100		V.			-	
Depth to Water (ft.)	13:00	7.14	9.14	9.14	9.14	9.14	9.14			-	1	/	
pH	1.24	1.21	7.22	7.24	7.25	7.25	7.25			1/1,	X		
Temp. (C)	12.98	12.58	12.40	12.28	THE RESIDENCE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF T	12.12	12.13			19	1		
Conductivity (mS/cm)	1.898	,832	.816	,799	.793	.790	.787			/			
Dissolved Oxygen MS	1.87	,50	,40	,56	153	,47	.45		/				
ORP (mV)	-69.7	-72.6	-64.7	-769	-79.9	-834	85.0						
Turbidity (NTU)	12.6	4.13	2.71	1.44	1.68	2.97	1.31	/					
Notes:													
mp on @ 09				00	Anal	yses	# of Contai	ners Ai	nalyses			# of Contai	iners
	CIAL SEAL OF CHILD				TOCs		11	Ch	loride, Sulf	ate, &			
Initial Purge: Clar	, no a	201, 11	ow tu	(pgy	(40 ml with I	H <sub>2</sub> SO <sub>4</sub> )	4	(2	kalinity. 50 ml)		4		
Final Purge: Clear	100	dor, la	ow tur	bidity	TSS (I L Poly)		2		tal Metals 50 ml with l	HNO <sub>3</sub> )	2	2	
Well Integrity Informatio	<u>n</u>				PCBs (Total (Amber)	)	4	TE (2)	OS 50 ml)		7	7	
Surface Seal Condition (con	(	INC	LUDE OVE			DUNT TO							
Locking Protective Well Ca	p/expansion	plug: QO	od					COLOTTI OF					
Well Lock Present? Y 65	Lock Cond	ition: QO	d		Sample ID: T540070 Sample Time: 1000  MS/MSD: Yes (No) Duplicate: (es) No								
Other:		30			MS/MSD:					<u></u>			
OVERSIGHT SAMPLE I	TD:		TIME		Duplicate ID		1500			p. Time:	100	00	
N/A			N/	APORT TO DESCRIPTION OF	Sampled By	A.ON	ei l		eviewed By				
					All samples	samples submitted under COC to TAL of South Burlington, Vermont.							

#### **GROUNDWATER SAMPLING LOG**

**Spring 2009 EVENT** 

Sampling Personnel:	1. KOHA	CEN T	1- 00500				Well ID:	29 09	1				
Client / Job Number:	A	7.0000 Tas	THE RESERVE OF THE PERSON NAMED IN	.0.7			- 11	29 109	Time	Outs B.	555		
Weather: 10 F	PARTY	CLOU	17, W	NOY			Time In: [2	190	Time	out.	233		
Depth to Water:	(feet)	6.8	7	(TIC)		Well Type			Flushmou	int 🗆	S	tick-Up	
Total Depth:	(feet)	11.6		(TIC)		Well Mate	rial:		Stainless Ste	el V		PVC	
Length of Water Column:	(feet)	4.7	3			Well Lock	ed:			es . 🗆	made i	No	
Volume of Water in Well:	(gal)	0.	17			Measuring	Point Marke	ed:		es 🛘		No	
Three Well Volumes:	(gal)		31		_	Well Diam	eter:	1*		2. √	Other:	THE WHOLE IS	
Purging Information	f	O AMO	H B	1415						- '			
Purging Method:	Barnant		eoPump [	/	Submersible	☐ Othe	·r			Conver	sion Fac	ctors	
(Peristaltic Pump)	L		iyethylene		Teflon				gal / ft.	1" ID	2* ID	4° ID	6* ID
Tubing Material:	Silicone	Ц		19		Othe	er.		of water	0.041	0.163	0.653	1.469
Sampling Method:	Barnant		GeoPump	S	ubmersible	Othe	er:		1 gal = 3	785 L =37	'85 ml = (	).1337 cu	bic feet
Duration of Pumping:	(min)	90	2						Unit Sta	bility, WI	TU TUD	PIDITY	E NITH
Average Pumping Rate:	(ml/min)	10	n w	later-Qualit	y Meter Type	YSI-	-556 & Ha	ch	pH	DO-	Con		ORP
Total Volume Removed:	(gal)			n	id well go dry	Yes	2100P	7	∀ 0.1	∀ 10%	∀ 3.0	0% ∀	10 mV
Total Volume Removed.	(gal)	2.3	0		id well go di y	. 163							
	1	2	3	4		6	7		B 9		10	11	1
Time:	1425	1430	1435	1440	1445	1450	1455					6 X E	
Volume Purged (L)	1.00	1.50	2.00	2.50	3,00	3.50	4.00		1 97				
Rate (mL/min)	100	100	100	100	100	100	100			1	1		
Depth to Water (ft.)	6.87	6.87	6.87	6.87	6.87	6.87	6.87		/	1/2	r		
pH	7.89	7.85	7.77	7.75	7.71	7.69	7.68	1 4	/N	JX)			
Temp. (C)	14.15	13.88	1357	1349	13.45	13.35	13.33		1/1/1/1	1/			
Conductivity (mS/cm)	0.705	0.705	0.707	0.70	10:707	0.709	0.710		K	1			
Dissolved Oxygen	1.05	(.08	0.46	0.36	032	0.33	0.34						
ORP (mV)	1-72.1	-74.8	-74.2	-68.0	-50.6	-55.8	-54.2	/					
Turbidity (NTU)	407	3.13	285	261	276	2.66	2.51	/					
Notes:													
							# of			Marie -	Market .	# of	
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Allai	yses	Contai	ners	Analyses			Contai	ners
Initial Purge: CLEAR,	Ne op	OR			TOCs (40 ml with	H-SO.)	2	1.	Chloride, Sulf Alkalinity.	ate, &	1		
					TSS	112004)			(250 ml) Total Metals		1		
Final Purge: CLGAR	; Po c	YUE			(I L Poly) PCBs (Tota		1		250 ml with I	INO <sub>3</sub> )	1		
Well Integrity Information	ell Integrity Information					)	2	7. 12 17 17 17 17 17 17 17 17 17 17 17 17 17	TDS (250 ml)		1		
urface Seal Condition (concrete pad, bolts, manhole cover):						INC		RSIGHT S	PLIT IN AMO	OUNT TO	TALS		
ocking Protective Well C	ap/expansion	plug: C	00					*					
/ell Lock Present? Lock Condition:					Sample ID:	T540	1018			mple Tim	1.	455	
V66	VGG				MS/MSD: Yes No Duplicate: Yes								
Other:	her: (V)					Duplicate ID: PA						+	
OVERSIGHT SAMPLE	ID:		TIME		Compled Du Log Reviewed Du								
PA						All samples submitted under COC to TAL of South Burlington, Vermont							

### Kalamazoo River Study Group – Plainwell TCRA

#### **GROUNDWATER SAMPLING LOG**

	1FK							W-15					
Client / Job Number: Weather: (a) S . C		9.0000 Tas					74.	30/09	Time	Out: 117	20		
Weather: 60°S, C	OVECCAS T	1 1100	WWD				Time In: O	945	Time	Out: 11	20		
Depth to Water:	(feet)	7.92		(TIC)		Well Type:			Flushmo	unt 🗆	Sti	ck-Up	V
Total Depth:	(feet)	7.13	14.50	(TIC)		Well Mater	rial:	S	tainless Ste	eel V		PVC	
Length of Water Column:	(feet)	1.20	6.58	<b>.</b>		Well Locke	ed:		,	res 🔛		No	
Volume of Water in Well:	(gal)	0.20	1.07			Measuring	Point Marke	d:		es 🖳		No	
Three Well Volumes:	(gal)	0.60	3.21			Well Diame	eter:	1"	0 (	2" 1	Other:		
Purging Information	Pom	00 P	0 100	00	OFF B	1120			,				
Purging Method: (Peristaltic Pump)	Barnant	] Ge	oPump	S	ubmersible	Othe				T T	sion Fact	Windshie out	
Tubing Material:	Silicone	☐ Po	lyethylene		Teflon	Other	r.		gal / ft. of water	1" ID 0.041	2° ID 0.163	4" ID 0.653	1.46
Sampling Method:	Barnant		GeoPump	Su Su	ibmersible	Othe	r:		1 gal = 3	3.785 L =378			1
Duration of Pumping:	(min)	120								£ 1814 . 1411		DIE	
Average Pumping Rate:	(ml/min)	100	w	ater-Quality	YSI-556 & Hach			ch	pH	bility, WIT	Cond		ORP
		100					2100P		∀ 0.1	∀ 10%	∀ 3.09		10 m
Total Volume Removed:	(gal)	3.17		Di	d well go dry:	: Yes	No						
	1	2	3	4	5	6	7	8	9	1	10	11	
Time:	1010	1015	1020	1025	1030	1035	1040		Carling.				
Volume Purged (L)	1.00	1.50	200	2.50	3.00	3.50	4.00						/
Rate (mL/min)	100	100	100	100	100	100	100					/	
Depth to Water (ft.)	7.93	7.93	7.93	7.93	7.93	7.93	7.93				/		
pH	7.33	7.34	7.34	7.34	7.34	7.33	7.35			1./x	2		
Temp. (C)	11.94	11.92	11.98	11.93	11.90	11.97	11.89			(Mr.	/		
Conductivity (mS/cm)	0.799	0.790	0.782	0.773	0.762	0761	0.762		1				
Dissolved Oxygen	0.95	0.60	0.41	0.46	0.42	0.40	0.39		/				
ORP (mV)	-702	-63.5	-59.3	-48.3	-49.7	-51.4	-51.7	/					
Turbidity (NTU)	5.50	4.07	3.36	2.38	1.93	1.45	1.13	/					
Notes:													
					Anal	yses	# of Contain	ore A	nalyses			of Contai	nare
urge Water Description	(Color? Od	or: Turbia	Otner?)		TOCs			CI	nloride, Sul	fate, &		·	
nitial Purge: CLEAR,	50 C	2000			(40 ml with h	H <sub>2</sub> SO <sub>4</sub> )	2		kalinity. 50 ml)		1		
inal Purge: CLEAR	was o	Doe			TSS (I L Poly)		1		otal Metals 50 ml with	HNO <sub>2</sub> )	1		
nal Purge: CHAR, NO ODOR					PCBs (Total (Amber)	)	2	TI	OS 50 ml)		1		
urface Seal Condition (con	ncrete pad, b	olts, manho	le cover):	5000		INC	LUDE OVER			OUNT TO	TALS		
ocking Protective Well Ca	ap/expansion	plug: Go	QO		Sample ID	6	(FP)					ALLA	
Vell Lock Present? Lock Condition: Good					MS/MSD:	TSYO Yes	II T	S400 Dupli	14	Yes	10	340	
Other:				Duplicate ID		1.				- 1			
dict.		OVERSIGHT SAMPLE ID: TIME: -				The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	2 3 1 /3		1 11	ip. Time:	14	Ω	

#### Kalamazoo River Study Group – Plainwell TCRA,

## **GROUNDWATER SAMPLING LOG**

Summer Spring 2009 EVENT

Plainwell, Michig		2					Mall ID.	< 110	2	56-	5			
Client / Job Number:	B0064535	.0000 Tas	k 00500				Date:	6/29		36	2			
Weather: 70°F, (							Time In:	1300	,	Time	Out: /	3.30		
Well Information														<del></del>
Depth to Water:	(feet)				IC)	Well Typ				Flushmo	unt 🗆	S	Stick-Up	1
Total Depth:	(feet)				<u>C)</u>	Well Mat	erial:		S	tainless St	el V		PVC	
Length of Water Column						Well Lock	ked:		_		es , 🗌		No	
Volume of Water in Well: Three Well Volumes:						Measurin	g Point Ma	arked:		١	es 🗆		No	
Tillee Well Volumes.	(gal)					Well Diag	neter:		1"		2" √	Other:		
Purging Information														
Purging Method: (Peristaltic Pump)	Barnant	] Ge	oPump [		Submersible	Oth	er:				1	sion Fac	T	T
Tubing Material:	Silicone	Pol	yethylene		Teflor	Oth	er.			gal / ft. of water	1° ID	2* ID 0.163	4° ID 0.653	6° ID
Sampling Method:	Barnant		GeoPump		Submersible	Oth	er:			1 gal = 3	.785 L =37			
Duration of Pumping:	(min)		_	New Park						11-11-01	L 1994 . 1887		DIDITI	
Average Pumping Rate:	(ml/min).	/	v	Vater-Qu	ality Meter Ty	pe: YS	1-556 & I 2100P		7	pH pH	bility, Wi	Con		ORP
Total Volume Removed:	(gal)		4	477	Did well go	try: Yes		No		∀ 0.1	∀ 10%	∀ 3.0	0% ∀	10 mV
												200		
Time:	1310	2	3		4	5 6		7	8	9		10	11	
Volume Purged (L)	-			100						C.77			7.5	
Rate (mL/min)	-								1414					
Depth to Water (fl.)														
pH	8.38							1 4						
Temp. (C)	23.45													
Conductivity (mS/cm)	0.622									0.000				
Dissolved Oxygen	8.24									2000				
ORP (mV)	88.0													
Turbidity (NTU)	103		5.25											
Notes:	100						+							
					1		<u> 1 </u>				<u> </u>			
Purge Water Descriptio	n (Color? Ode	r? Turbid	? Other?)		Ar	alyses	# of	tainers	A	nalyses			# of Conta	iners
Initial Purge:	n (COIOI : Out	7. Turbia	/		TOCs (40 ml wi	th H <sub>2</sub> SO <sub>4</sub> )	2		Al	nloride, Sul kalinity.	ate, &	1		
Final Purge:		/			TSS (I L Poly)		1		To	50 ml) stal Metals 50 ml with l	HNO <sub>3</sub> )	1		
Well Integrity Informat	ion /				PCBs (To	ital)	2		TE	OS 50 mil)		1		
Surface Seal Condition (c	concrete pad, b	olts, manhol	le cover):		(variber)	IN	CLUDE ON	ERSIGH		LIT IN AM	OUNT TO	TALS		
Locking Protective Well	ap/expansion	plug:			Sample									
Well Lock Present?	Lock Condi	tion:			Sample II	13	1003		Dupli		mple Time Yes	0	010	
Other:					Duplicate					Du	p. Time:			
OVERSIGHT SAMPLE	E ID:		TIME	:	Sampled		V	1	og R	lewiewed B	r. M			
					All sample	es submitted		Can Tall o	#Sn	oth Burling	no Verm	K		

# Kalamazoo River Study Group – Plainwell TCRA,

#### GROUNDWATER SAMPLING LOG

Sampling Personnel:	M. KOHAGE						Well ID:		3 56-5				
Client / Job Number:	B0064539.0	0000 Task 0	0500				Date: 7/	2/09	Time	Out	-		
Well Information	OVERCAST		N III				Time III. 10	20	Time	out.			
Depth to Water:	(feet)			(TIC)		Well Type			Flushmou	ınt 🗆	8	Stick-Up	1
Total Depth:	(feet)			(TIC)		Well Mate	rial:	Bell	Stainless Ste	el V		PVC	
Length of Water Column:	(feet)					Well Lock	ed:		Y	es 🛘		No	
Volume of Water in Well:	(gal)					Measuring	Point Marke	ed:	Y	es 🗆		No	
Three Well Volumes:	(gal)					Well Diam	eter:		• 🗆	2" √	Other:		
Purging Information Purging Method:		00		0.1						Conver	cion Es	otore	
(Peristaltic Pump)	Barnant	GeoPi	nmb	Suc	omersible	Othe	r.		201/8	1" ID	2* ID	4" ID	6° ID
Tubing Material:	Silicone	Polyet	hylene		Teflon	Othe	er:		gal / ft. of water	0.041	0.163	0.653	1.469
Sampling Method:	Barnant	Geo	Pump	Sub	mersible	Othe	r:		1 gal = 3.	785 L =37	85 ml = 0	0.1337 c	ubic feet
Duration of Pumping:	(min)								Unit Sta	bility, WI	TH THE	BIDITY	<5 NTII
Average Pumping Rate:	(ml/min)		Water	-Quality N	Meter Type	YSI-	556 & Ha 2100P	ch	pH	DO DO	Con		ORP
Total Volume Removed:	(gal)			Did	well go dry	r: Yes	No		∀ 0.1	∀ 10%	∀ 3.	0%	√ 10 mV
		2	2	- 41	-	- 6	7		0 0	Т.	10.1	44	12
	1	2	3	4	5	6	7		8 9	-	10	11	12
Time: Volume Purged (L)	1030												
Rate (mL/min)									:				
Depth to Water (ft.)													
pH	8.06												
Temp. (C)													
Conductivity (mS/cm)	18.75												
Dissolved Oxygen	0.611						1000000						
ORP (mV)	111.4												
Turbidity (NTU)	875										-		
Notes:	8.75												
							# of					# of	
Purge Water Description	(Color? Odor?	? Turbid? O	ther?)		Ana	lyses	Contair	ners	Analyses			Conta	iners
Initial Purge:					TOCs 40 ml with	H <sub>2</sub> SO <sub>4</sub> )	8		Chloride, Sulf. Alkalinity. (250 ml)	ate, &	4		
Final Purge:					SS I L Poly)		4		Total Metals (250 ml with H	HNO <sub>3</sub> )	4		
Well Integrity Informati	on			P	CBs (Tota Amber)	1)	8		TDS (250 ml)		4		
Surface Seal Condition (co	oncrete pad, bolt	s, manhole o	over):	-	unicery	INC	LUDE OVER	SIGHT	SPLIT IN AMO	OUNT TO	TALS		
Locking Protective Well C	Caplespansion pl	ug:		5	Sample ID:					mple Time		70	
Well Look Present	Lock Conditio	ME:			MS/MSD:	Yes	NO 4	Du		Yes	No No	30	
Other:				0	Duplicate IC	: T<7	1005		Du	p. Time:	_		
OVERSIONT SAMPLE	ID:		TIME:	S	Sampled By		4	Lo	g Reviewed By	ME	/		
				A	II samples	submitted u	nder COC to	TAL of	South Burlingto	on Verm	ont		

# **ARCADIS**

#### **Attachment 3C**

Groundwater and Surface Water Sampling Logs – Quarter 3 – September 2009

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	1. Kohno							W-1					
Client / Job Number:		9.0000 Tas						400		0.4	CIO		
Weather: 80 - C	weecust	CALA					Time In: 1	400	Time	Out: 1.	540		
Depth to Water:	(feet)	8.54		(TIC)	, we	Well Type:			Flushmo	unt 🗌	Stic	:k-Up	1
Total Depth:	(feet)	12.72	<u></u>	(TIC)		Well Mater	ial:	s	tainless Ste	eel √		PVC	
Length of Water Column:	(feet)	4.18			_	Well Locke	ed:		Y	es 🖭		No	
Volume of Water in Well:	(gal)	0.6				Measuring	Point Marke	d:	Y	es 1		No	
Three Well Volumes:	(gal)	2.04	or or		-	Well Diame	eter:	1"		2° √	Other.		
Purging Information	PUMP	an O	1420	of	FO15	30							
Purging Method: (Peristaltic Pump)	Barnant [	] Ge	eoPump	s	ubmersible	Other				1	sion Facto	4,400,411,21	
Tubing Material:	Silicone	Po	lyethylene		Teflon	Other	<del></del>		gal / ft. of water	1° ID	2° ID	4" ID	6" ID
Sampling Method:	Barnant		GeoPump	Si	ubmersible	Other				0.041 .785 L =378		0.653 337 ca	1.469 ubic feet
Duration of Pumping:	(min)	70											
Average Pumping Rate:	(ml/min)		v	/ater-Quality	y Meter Type		556 & Had	ch		bility, WIT	A STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STA	DITY -	
	(111011111)	100		ater-Quant	y weter Type	•	2100P		pH V 0.1	DO ∀ 10%	Cond.	+	ORP
Total Volume Removed:	(gal)	1.85		Di	id well go dry	: Yes	No		∀ 0.1	V 10%	∀ 3.0%	<u> </u>	/ 10 mV
	1	2	3	4	5	6	7	8	9	1 1	0	11	12
Time:	1430	1435	1440	1445		1455							
Volume Purged (L)	1.00	1.50	2.00	2.50	3,06	3.50							
Rate (mL/min)	100	100	100	100	100	100							
Depth to Water (ft.)	8.55	8.55	-	8.55	8.55	8.55					1		
рН	7.56	7.50		7.50		7.52				1./			
Temp. (C)	17.06	16.70		the ferrit with contemporary with	16.41	16.47			M	K			
Conductivity (mS/cm)	0.932		0.931	0931	0.930	0.934			1				
Dissolved Oxygen	0.23	0.21	0.21	0.17	0.15	0.14		/					
ORP (mV)	-29.1	-34.4	-38.3	-39.9	-41.4	-45.5		/					
Turbidity (NTU):	11.34	6.20	5.12	4.33	3.42	2.87	1						
Notes:					A.								
				T.	Anal	yses	# of Contain	an Ar	nalyses			of	
Purge Water Description			? Other?)	-	TOCs		Contain		loride, Sulf	ate, &	· ·	ontai	iners
Initial Purge:	L, No	DOE			(40 ml with I	H <sub>2</sub> SO <sub>4</sub> )	2		(alinity. (0 ml)		1		
Final Purge:		11			TSS (I L Poly)		(	To	tal Metals 50 ml with H	INO <sub>o</sub> )	i		
Well Integrity Informatio	<u>on</u>			Ī	PCBs (Total	)	2	TD	s		1		
Surface Seal Condition (co	ncrete pad, be	olts, manho	le cover):	000	(Amber)	INCI	UDE OVER		O ml)	I INT TOT	AI S		
Locking Protective Well Ca	ap/expansion	plug: C		-				John SPI				<b>E</b> -	
Well Lock Present?	Lock Condi		•		Sample ID:	TS400	(Na)	Duplic		mple Time: Yes	-1	53	
Other:		6000			MS/MSD:			Dupiic			Mo)		
OVERSIGHT SAMPLE	ID:		TIME	- 3 - 1	Duplicate ID Sampled By	1	n A	I on P	Duj eviewed By		MA		
No	JF -					MEL				14	FK		
No					All samples	submitted un	der COC to	IAL of Sou	th Burlingt	on, Vermoi	nt.		

#### **GROUNDWATER SAMPLING LOG**

Client / Job Number:	B006453	9.0000 Tas	sk 00500	E ESSA			Date: 9 22	09		1000		11-13	
Weather: 70° F	OVERCAST	, CALI	n				Time In: 116	G	Time	Out: 4	155	1230	2
Depth to Water:	(feet)	11.76		(TIC)		Well Type			Flushmou	int 🗆	S	tick-Up	1
Total Depth:	(feet)	15.10		(TIC)	_	Well Mate	rial:	s	tainless Ste	el √		PVC	
ength of Water Column:	(feet)	3.34				Well Locke	ed:		Y	es 🗜	-	No	
/olume of Water in Well:	(gal)	0.54			-	Measuring	Point Marked:		Y	es 🗗		No	
Three Well Volumes:	(gal)	1.62			-	Well Diam	eter:	1"		2° V	Other:		
Purging Information	Pump a	D 110	S	1210					Ī	- '			
Purging Method: Peristaltic Pump)	Barnant	G G	eoPump	I s	ubmersible	Othe	r.			T	rsion Fac		T
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	r.		gal / ft. of water	1" ID 0.041	2* ID 0.163	4" ID 0.653	6" ID
Sampling Method:	Barnant		GeoPump	SI	ubmersible	Othe	r.		1 gal = 3.	785 L =37	785 ml = 0		
Duration of Pumping:	(min)	65							Unit Sta	hility W	TH TURE	NOITY 4	cs NTII
verage Pumping Rate:	(ml/min)		v	Vater-Quality	y Meter Type	YSI-	556 & Hach		pH	DO DO	Cond		ORP
Fatal Values B. A.		•					2100P		∀ 0.1	∀ 10%	STATE OF THE PARTY OF THE PARTY.	AND DESCRIPTION OF THE PARTY OF	10 mV
Total Volume Removed:	(gal)	1.72		Di	d well go dry	: Yes	(Nô)	_					
	1115	2	3	4	5	6	7	8	9		10	11	1
Time: olume Purged (L)	1.00	1128	1125	1130	3.00	1140							/
ate (mL/min)	100	1.50	100	100		3.56							
epth to Water (ft.)	11.77	11-77	(1.77	11.77	11.72	106					/		
H	7.00	7.13	7.02	7.09	711	7.14			1				
emp. (C)	16.59	16.56	16.68	16.68	16.56	1657			10/18	1)			
conductivity (mS/cm)	1.136	1.131	1.133	1.135	-	1.138		-/	WO	1			
issolved Oxygen	046		0.29	The state of the state of	0.23	0.25		X	1/				
ORP (mV)	-94.2	0.24	-97.1	-98.7	-99.6	-98.8		_					
urbidity (NTU)	27.92	4.38	3.64			3.17							
lotes:	21.16	4.30	3.67	3.14	282	2.11							
	1,		L										
rge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	# of Container	s Ai	nalyses			# of Contai	ners
			· omerry		TOCs				loride, Sulfa	ate, &	79,18		
	R, No	-			(40 ml with l	H <sub>2</sub> SO <sub>4</sub> )	2	(25	calinity. 50 ml)			1	
nal Purge:	" "				TSS (I L Poly)		1		tal Metals 50 ml with H	INO <sub>3</sub> )			
ell Integrity Informati					PCBs (Total (Amber)	)	2	(25	S (50 ml)		1		
face Seal Condition (co				5000		INC	LUDE OVERSION	SHT SP	LIT IN AMC	OUNT TO	TALS		
cking Protective Well C	Cap/expansion	plug: <b>Co</b>	0		Sample ID:	TKUA	039		Sar	nple Tim	e: • 1	INV	
ell Lock Present?	Lock Cond	ition: G	00		MS/MSD:	Yes	(M)	Duplic		Yes	MO	140	
her:					Duplicate ID	): .J&	7		Duj	o. Time:	A//A		
ERSIGHT SAMPLE	ID:		TIME	:	Sampled By	MA	1000	Log R	eviewed By		K K		
						11/160	naden			144	1		

## **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	S. Har	cus						1W-3				
Client / Job Number:		9.0000 Ta					Date: 9	122/09				
Weather: Overca	st, fogo	14 - AN	hours				Time In: C	9845	Time (	Out: 105	50	
Well Information					-	144.W.T						<del></del>
Depth to Water:	(feet)	10.6		(TIC)	72	Well Type		X 15000	Flushmou	nt 🗆	Stick-Up	10.000
Total Depth:	(feet)	3.0	15'	(TIC)	-	Well Mate	rial:	S	tainless Ste	el 1	PVC	
Length of Water Column:	(feet)	0.			-	Well Lock	ed:		Y	es 🔀	No	
Volume of Water in Well:	(gal)	1.1			-	Measuring	Point Mark	ed:	Ye	es 🗶	No	. 🗆
Three Well Volumes:  Purging Information	Pump	on a			-	Well Diam	eter:	1"		2* √ (	Other:	
Purging Method:	Barnant		eoPump \	/ s	Submersible	☐ Othe	r.			Conversion	on Factors	
(Peristaltic Pump)  Tubing Material:	Silicone	□ Po	olyethylene	Π	Teflon	₩ Othe	r		gal / ft. of water	A SOLD STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF TH	2° ID 4° ID	
Sampling Method:	Barnant		GeoPump	X s	ubmersible	☐ Othe					0.163 0.653 5 ml = 0.1337 d	No City
Duration of Pumping:	(min)	115		<u>/</u>					1 gai = 3.	705 L =3705	mi = 0.1337 C	addic feet
						YSI-	556 & Ha	ach	Unit Stal	bility, WITH	TURBIDITY	<5 NTU
Average Pumping Rate:	(ml/min)	100	V	/ater-Qualit	y Meter Type	e:	2100P		pH	DO	Cond.	ORP
Total Volume Removed:	(gal)	3.04	-	D	id well go dr	y: Yes	No		∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV
								1 0		T 40		1 40
Time:	1	2	3	4	5	6	7	8	9	10	11	12
Volume Purged (L)	0922	0927	0932	0937	0942	0947	0952	0957	1002	1007	1012	1017
Rate (mL/min)	100	too	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft.)	10,68	10.67	10.68'	10.68	10.68	10.68	10.68	10.68	10.67	10.67	1 18.68'	10.67
рН	6.90	6.99	7.02	7.03	7.04	7.05	7.05	7.05	7.06	7.06	7.07	7.06
Temp. (C)	16-59	16.37	16.34	16.29	16.30	16.32	16.36	16.36	16.41	16.42	16.42	16.43
Conductivity (mS/cm)	1.120	1.121	1.121	1.121	1.121	1.121	1.121	1.122	1.122	1.123	1.123	1.123
Dissolved Oxygen 19/L	0.45	0.32	0.25	0.27	0.36	0.43	0.48	0.35	0.32	0.22	0.17	0.19
ORP (mV)	-18.9	-27.7	-22.7	-28.0	-39.2		-49.3	-51.4	-52.3	-53.3		-55.3
Turbidity (NTU)	54.75	35.72	24.98	18.17	11.43	11.79	7.59	5.91	5.13	4.27		1.82
Notes:	1.12	177 (5	(8	101	1111/		1,5		7402		12,27	102
				<u> </u>			# of				# of	
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Ana	lyses	Contai	iners A	nalyses			ainers
	No od	1000			TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	2	Al	hloride, Sulfa kalinity. 50 ml)	ate, &	1	
Final Purge: Clear	No 00	lor			TSS (I L Poly)		1	To	otal Metals 50 ml with H	INO <sub>3</sub> )	)	
Well Integrity Information					PCBs (Total (Amber)	al)	. 2	TI	DS 50 ml)	11-5/		
surface Seal Condition (cor	ncrete pad, b	olts, manho	ole cover): (	soud.	(Amber)	INC				NINT TOTA	N.S	
ocking Protective Well Ca								NOIGHT SP	PLIT IN AMO			
Well Lock Present? Ues.						T5400	NO NO	Dupli		mple Time: Yes	1024	
Other:		Got			MS/MSD:	162		Dupii	cate.	ies (	<u>س</u>	
OVERSIGHT SAMPLE I	m·		TIME		Duplicate II	17/7				p. Time:	VA.	
	versight	Solit !			Sampled B		areus	Log F	Reviewed By			
140 01	J. G.	Mul 2	1		All samples	submitted u	nder COC t	o TAL of So	outh Burlingto	on, Vermon	t.	

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	1. CONAGE		00500				ate:	MW-4	9				
Client / Job Number:		.0000 Tasl					ime In:	1500	Т	me Out:	IG	55	
Weather: 75 F	PARILY	Croudy	, MOD L	ZIMD	_			15-0					
Depth to Water:	(feet)	1222		(TIC)	1	Well Type:			Flusi	nmount	0	Stick-L	Jp √
Total Depth:	(feet)	14.44		(TIC)	1	Well Materi	al:		Stainles	s Steel	1/	PV	c 🗆
ength of Water Column:	(feet)	2.22	india di la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la c		_	Well Locke	d:			Yes	9		lo 🗆
Volume of Water in Well:	(gal)	1.09				Measuring	Point Ma	arked:		Yes			to 🗆
Three Well Volumes:	(gal)				_	Well Diame	eter:		1" 🗆	2"	1	Other:	
Purging Information	PUMP C	NO	1510	Off	@164	5							
Purging Method: (Peristaltic Pump)	Barnant [	Ge	oPump [	Sı	ubmersible	Other	:					n Factors	CONTRACTOR OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE
Tubing Material:	Silicone	Pol Pol	yethylene		Teflon	Other			gal of w	otor -		0.163 0.6	
Sampling Method:	Barnant		GeoPump	Su	bmersible	Other	:		1 ga	al = 3.785	L =3785	ml = 0.133	7 cubic feet
Duration of Pumping:	(min)	Q !	5							. Ct-Lille	. 140TU	TURRING	Y <5 NTU
Average Pumping Rate:	(ml/min)		, w	/ater-Quality	Meter Type:		556 &		pl	T T	y, WITH	Cond.	ORP
		100	1				2100F	The CHIEF COLOR WITH THE	A C	-	10%	∀ 3.0%	∀ 10 mV
Total Volume Removed:	(gal)	2.	10	Di	d well go dry:	: Yes	(	<u> </u>					
	1	2	3	4	5	6		7	8	9	10	1	1 1
Time:	1520	1525	1530	1535	1540	1545		1.0					
Volume Purged (L)	100	1.50	200	2.50	3.00	3.06							
Rate (mL/min)	100	100	100	100	100	100						750	
Depth to Water (ft.)	12.22	12.23	12.23	1223	12.23	2.23							
pН	6.98	6.88	6.90	4.95	6.98	7.02							
Temp. (C)	18.19	17.90	17.97	17.87	17.95	18.07			M	40	)		
Conductivity (mS/cm)	1.131	1.136	1.134	1.135	1.139	1.140				-	_		-
Dissolved Oxygen	0.37	0.31	0.28	0.27	0.27	0.25		1					
ORP (mV)	-61.4	-59.5	-63.1	-68.9	-72.3	-74.4		1					
Turbidity (NTU)	10.70	4.75	3.31	4.13	3.21	1.66	~						
Notes:													
	(6.1.00)	om 111	0.041 - 8\		Anal	lyses	# o Cor	f ntainers	Analys	es		# o Co	f ntainers
Purge Water Description			· Omer:)		TOCs		2		Chloride Alkalinit	, Sulfate, y.	&	1	
	e, ro	Syok /			(40 ml with	H <sub>2</sub> SO <sub>4</sub> ) 4	_		(250 ml) Total Me	etals		1	
Final Purge: / ( Well Integrity Informati					(I L Poly) PCBs (Tota	i) 7	.,	104	TDS	with HNC	/3)	'	
Surface Seal Condition (co		solte manho	le cover).		(Amber)		_	CPM	(250 ml)		_/		
				2000		INC	LUDE	VERSIGH	T SPLIT II	N AMOUN	т тот	ALS	
ocking Protective Well (					Sample ID:	T540	035	5	Dunlie etc		e Time:	124	5
Well Lock Present?	Lock Cond	nuon: Go	<b>O</b>		MS/MSD:	Yes	9	,	Ouplicate:	Ye	, (	No	
Other:					Duplicate II	D: <b>1</b>	Alc			Dup. 1	īme:	NIA	
OVERSIGHT SAMPLE	ID:		TIMI	E:	Sampled B	y: A.	_		Log Review	wed By:			
OVERDIGITI DILIZ 22						" MFK							

#### **GROUNDWATER SAMPLING LOG**

Client / Job Number:		9.0000 Tas						109			545		
Weather: 70°F	PARTLY	CLOUDY	MOD L	SIMP			Time In:	403	Time	Out: ]	545		
Well Information  Depth to Water:	(feet)	H- 12.	50	(TIC)		Well Type:			Flushmou	ınt 🗆	Stic	k-Up	1
Total Depth:	(feet)		23	(TIC)		Well Mate	rial:	S	tainless Ste	- 1		PVC	
Length of Water Column:	(feet)	2.	20			Well Locke	ed:			es 🗙		No	
Volume of Water in Well:	(gal)		36			Measuring	Point Mark	ed:	Y	es 🔀		No	
Three Well Volumes:	(gal)		08			Well Diam	eter:	1"		2° V	Other:		
Purging Information	PUMP	m 0	1408							-			
Purging Method: (Peristaltic Pump)	Barnant	Ge Ge	eoPump	√ s	ubmersible	Othe	er:			T	sion Facto	TO UNION	Laun
Tubing Material:	Silicone	N Po	lyethylene		Teflon	Othe	er.		gal / ft. of water	1° ID 0.041		4° ID 0.653	6" ID
Sampling Method:	Barnant		GeoPump	X SI	ubmersible	Othe	er:		1 gal = 3	.785 L =378	85 ml = 0.1	337 cu	ıbic feet
Duration of Pumping:	(min)	95					1, 4,18		Unit Cto	bility, WIT	ru THODII	OITY .	e MTH
Average Pumping Rate:	(ml/min	100	v	/ater-Quality	y Meter Type	YSI-	-556 & Ha	nch	pH	DO DO	Cond.	T	ORP
			• 1		id wall as da	Von	2100P	2	∀ 0.1	∀ 10%	∀ 3.0%	, V	/ 10 mV
Total Volume Removed:	(gal)	2.5	, (	b	id well go dry	r: Yes	(NO	_					
	1413	1423	1428	1433	1438	1443	1448	1453	9	1	0	11	,
Volume Purged (L)	1.00	4.5	2.0	2.5	3.0	3.5	4.0	4.5					/
Rate (mL/min)	100	100	100	100	100	100	100	100				/	
Depth to Water (ft.)	12.04	12.04	12.04	12.04		12.04	17.04	(2.04			1		
pH	6.92	6.96	6,98	7.00	7.07	7.06	7.09	7.10		T	A		
Temp. (C)	18.23	18.10	18.01	18.03	18.10	18.20	18.23	18.04		1/2	1		
Conductivity (mS/cm)	1.236	1.228	1.223	1.221	1.219	1,217	1.218	1.217		No.			
Dissolved Oxygen (%)	3.6	2.8	2.2	2.0	1.6	1.4	1.3	1.3		/			
ORP (mV)	-61.8	-73.3	-81.2	-86.8	-97.2	-	-114.4	-123.9	1				
Turbidity (NTŪ)	5.49	6.71	6.19	4.37	2.35	1.93	1.31	8.55	/				
Notes:	7.11	16.41	0,11	1.71	2.,,,	1			5706:1	zed			
					Ana	lyses	# of Conta	inore A	nalyses			of	iners
Purge Water Description			? Other?)		TOCs		2	C	hloride, Sul kalinity.	fate, &	1	Onta	IIICIG
Initial Purge: Clar,	1000	dor			(40 ml with	H <sub>2</sub> SO <sub>4</sub> )		(2	50 ml)		<u>'</u>		
Final Purge: Clear	No 01	Odor			TSS (I L Poly)		(	CONTROL STORY OF THE STORY	50 ml with	HNO <sub>3</sub> )	1		
Well Integrity Information					PCBs (Total (Amber)	al)	2 -		DS 50 ml)		1		
Surface Seal Condition (co	ncrete pad,	bolts, manho	ole cover):	Good		INC	CLUDE OVE		LIT IN AM	OUNT TO	TALS		
Locking Protective Well C	ap/expansio	n plug: G	ood.		Sample ID:	Dem	MULCE	501-T	54-003	4 ample Time	e: /5^	2	
Well Lock Present? 4e5.	Lock Con	dition: G	ood.		MS/MSD:	Yes	No		cate:		No	_	
Other:					Duplicate II	D: 4//	/A		n	up. Time:	AJ/A		
OVERSIGHT SAMPLE	ID:		TIME	C:		- 1	M	Local	Reviewed E		MA		
PGW-MWOS			150	6.1	Sampled B	5. H	arcus			WE			
10 An 1 1 Ano-	, ,			-	All samples	submitted	under COC	to TAL of So	outh Burling	ton, Verm	ont.		

#### **GROUNDWATER SAMPLING LOG**

eet) [] eet) [5 eet) 4 al) 0	GeoPump Polyethylene GeoPump			Well Type: Well Mater Well Locke	ial: Point Market	S		int 🗆	S Other:	PVC No No	√ □ □
eet) [] eet) [5 eet) 4 al) 0 al) 2 con [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] ent [] en	.85' .21' .69 .06  GeoPump Polyethylene GeoPump	(TIC)	- - submersible	Well Type: Well Mater Well Locke Measuring Well Diame	ial: ed: Point Marked	S	Flushmou tainless Ste Y	el V	S	PVC No	
eet) [5 eet) 4 al) 0 al) 2 al) 109 ant  one mant  (min) 6	.85' .21' .69 .06  GeoPump Polyethylene GeoPump	(TIC)	- - submersible	Well Mater Well Locke Measuring Well Diame	ial: ed: Point Marked	i:	tainless Ste	el $$ es $$		PVC No	
eet) [5 eet) 4 al) 0 al) 2 al) 109 ant  one mant  (min) 6	.85' .21' .69 .06  GeoPump Polyethylene GeoPump	(TIC)	- - submersible	Well Mater Well Locke Measuring Well Diame	ial: ed: Point Marked	i:	tainless Ste	el $$ es $$		PVC No	
eet) 4 al) 0 al) 2 al) 109 ant  one  one  (min) 6	GeoPump Polyethylene GeoPump	s D	- - Submersible	Well Locke Measuring Well Diame	ed: Point Marked	i:	Y.	es 🔉	Other:	No	
al) 0. al) 2 2 on    69 ant    one    mant    (min) 6	GeoPump Polyethylene GeoPump			Measuring Well Diame	Point Marked		Y	es 🖔	Other:		
al) 2 2 2 3 1109 ant   cone  (min) 6	GeoPump Polyethylene GeoPump			Well Diame				Í	Other:	No	
ant   log	GeoPump Polyethylene GeoPump				eter:	1"		2* √	Other:		
ant Done Manant Done Manant Done (min) 6	GeoPump Polyethylene GeoPump			Other					Street interestant	Salara Control	
one mant (min) G	Polyethylene GeoPump			Other							
nant [	GeoPump		Teflon		г.			Conver	sion Fac	tors 4' ID	6" ID
(min) 6		V S		Other	г.		gal / ft. of water	0.041	0.163	0.653	1,469
	5	1	ubmersible	Other	r.		1 gal = 3.	785 L =37			
ml/min) [6							11-14-04-1			ninim'	
	o v	/ater-Quality	y Meter Type		556 & Had	:h	Unit Sta		7		
		-Lior acount	, 1 ypc		2100P		pH V o 1	DO	Con		ORP
(gal)	72	Di	id well go dry	r: Yes	(No)		V U.1	v 10%	V 3.0	76   7	10 mV
11	2 2	1	F	-	71			T	10.1	44 1	1
		1133			\		9		10		
		2.5	3.0	3.5					1	1	
06 16	100	100	100	100					1		
64' 11-6	4' 11.64'	11.64	11.64	11.64'		1464	6	M			
17 7.0	8 7.19	7.19	7.19	7.19			N				
		19.50	15.46	15.44			W.	111			
23 1.00	1.024	1.024	1.025	1.025			X				
3/ 0.2	8 0.27	0.21	0.18	0.17		,					
		-84.7	-87.3	-86.9		/					
		6.44	5.20	3.19	1	/					
		1	-		Stabilized	,					
					1						
r? Odor? Tu	rhid? Other?)		Anal	lyses		ers A	nalyses			# of Contai	iners
			TOCs	H-80-)	7	All	kalinity.	ate, &		1	
			TSS	112004)	1	To	tal Metals			1	
				1)	1			INO <sub>3</sub> )			
nad holts m	anhole cover).	road	(Amber)							1	
				INCI	LUDE OVERS	SIGHT SP	LIT IN AMO	OT TAU	TALS		
1.00			Sample ID:		States the Pales					,	STR.
Condition: (	2000.		MS/MSD:	Yes	MO	Duplic	cate:	Yes	<b>™</b>		
			Duplicate ID	): N/A			Duj	p. Time:	N/A		
plit Sa	mple TIME	•	Sampled By	SHO	reve	Log R	eviewed By	· M	Y-		
MIN-L	1		All samples	submitted ur	ndor COO t	TAL - ( O -	ith Burlingt	1/2	-		
	1 18 112 11.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.	1 123 1128 118 1123 1128 10 1.5 2.0 100 100 104 11.64 11.64 17 7.18 7.19 16 15.33 15.46 17 0.28 0.27 16 -84.5 -84.4 17 -84.5 5.79 18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 123 1128 1133  18 1123 1128 1133  10 1.5 2.0 2.5  10 100 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100  10 100	1	1	1	1	1	1	1	1

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	M. KOHA	0000 Tool	00500				Nell ID: 11	22/00				
Client / Job Number:	B0064539	.0000 Tas	UUCUU	-			Time In: ()8		Time	Out: \C	53	
Weather: /0*★ Well Information	Pes Ch	4					mic m. Oe		,,,,,	- T		
Depth to Water:	(feet)	2.10		(TIC)		Well Type:			Flushmou	unt 🗆	Stick	-Up √
Total Depth:		14.68		(TIC)		Well Mater	ial:	s	tainless Ste	el V	_ P	vc 🗆
Length of Water Column:	(feet)	2.58				Well Locke	ed:		Y	es 🕑		No 🗆
Volume of Water in Well:	(gal)	0.42				Measuring	Point Market	d:		es 📝		No 🗆
Three Well Volumes:	(gal)	1.26				Well Diame		1"		2° V	Other:	
Purging Information	POMP OF	0 08	55	OFF	) १०५८ ·					2 1		
Purging Method: (Peristaltic Pump)	Barnant [		oPump	Si	ubmersible	Othe	r.			T	sion Factor	
Tubing Material:	Silicone	Pol	yethylene		Teflon	Othe	r.		gal / ft. of water	1° ID 0.041		653 1.469
Sampling Method:	Barnant		GeoPump	Su	bmersible	Othe	r.		1 gal = 3	.785 L =378		37 cubic feet
Duration of Pumping:	(min)	10	5						Unit Sta	hility WI	H TURBID	ITY <5 NTU
Average Pumping Rate:	(ml/min)	100	, w	ater-Quality	Meter Type	YSI-	556 & Had 2100P	h	pH	DO	Cond.	ORP
Total Valuma Damauadi	(aal)			Di	d well go dry	: Yes	No		∀ 0.1	∀ 10%	∀ 3.0%	∀ 10 mV
Total Volume Removed:	(gal)	2.77		Di	a well go dry	. 163	(10)					
	0905	2	0915	0920	5	0930	0935	. 8	9	1	0	11 1
Time:	100000000000000000000000000000000000000	0910	2.00	Mischell Co.	3.00	A STATE OF COMMISSION OF CO.						
Volume Purged (L)	1.00	1.50	100	250		3,50	100				1	
Rate (mL/min)	100	100		1	100	100			-	V	rt	
Depth to Water (ft.)	12.10	12.10	12.11	12.11	12.11	12.11	12.11		1	40		
pH	7.11	7.17	7.18	7.17	7.22	7.22	7.22		1	1		
Temp. (C)	15.65	15.60	15.48	1542	15.66	15.00	BETT-MALE HE MALE TO STATE		1	1-		
Conductivity (mS/cm)	1.199	1.155	1.137	1.125	1.110	1.105	1.101		$V_{-}$			
Dissolved Oxygen	0.40	0.34	0.32	0.27	0.21	0.21	0.21	-/				
ORP (mV)	-56.1	-67.2	-68.4	-58.7	0.00	-72.3	-75.6	/				
Turbidity (NTU)	58.33	17.60	11.98	7.74	3.19	2.89	2.75	1				
Notes:												
	(C-12 O.)	-9 Tunkid	2 O4h a=2)		Ana	lyses	# of Contain	ers A	nalyses		# c	of ontainers
nitial Purge: Sai			: Other:)		TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	2	C	hloride, Sulf	fate, &	1	
	, ra 0!				TSS		1	To	otal Metals		1	
Vell Integrity Informati					(I L Poly) PCBs (Total (Amber)	1) 2 t.	3 CDm	-	50 ml with 1 DS 250 ml)	HNO <sub>3</sub> )	1	
Surface Seal Condition (c	oncrete pad, b	olts, manho	le cover):	∞n	(Alline)		LUDE OVER			OUNT TO	TALS	
ocking Protective Well (	Cap/expansion	plug: Goog	,		Sample ID:	*			Se	ample Time	- 000	
Well Lock Present?	Lock Cond	ition: Gove	,		MS/MSD:	TS 400	300	Dupli	icate:	Yes	093	
Other:					Duplicate II	D:	rlA		Dı	up. Time:	NA	
OVERSIGHT SAMPLE	(4)		TIME	:	Sampled B			Log I	Reviewed B		77	
PGW-MW7	1-02		093	5		The second of the second		TAL of Co	outh Burling	V		

#### **GROUNDWATER SAMPLING LOG**

Client Job Number:   B0064539.0000 Task 00500   Date:   9/21   Did well Information   Depth to Water:   (feet)   10.597   (TIC)   Total Depth:   (feet)   18.46   (TIC)   (TIC)   (Heet)   18.46   (TIC)   (TIC)   (Heet)   18.46   (TIC)   (Heet)   17.57   (TIC)   (Heet)   18.46   (TIC)   (Heet)   18.46   (TIC)   (Heet)   18.46   (TIC)   (Heet)   18.46   (TIC)   (Heet)   18.46   (TIC)   (Heet)   18.46   (TIC)   (Heet)   18.46   (TIC)   (Heet)   18.46   (TIC)   (Heet)   (Heet)   18.46   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)   (Heet)	Sampling Personnel:	5. Ho	urcus			1200		Well ID:	MW-8					
Well Type:   Flushmount   Stick-Up   Victor Depth to Water   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (feet)   18.46   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)   (finc)	Client / Job Number:	B006453	9.0000 Tas					Date: 9						
Depth to Water   Cheet    10 . SF   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    15 . F   Cheet    1	/	Party C	loudy,	Moderate	e. Win	d		Time In:	1615	Time (	Out:	140		
Total Depth:	Well Information		0	-01		_								
Length of Water Column:	Depth to Water:	(feet)			(TIC)	_	Well Type			Flushmou	int 🗆	St	tick-Up	_√_
Volume of Water in Welt		(feet)			(TIC)	_	Well Mate	rial:	S	tainless Ste	el √		PVC	
Time	Length of Water Column:	(feet)				_	Well Lock	ed:		Y	es 🕱		No	
Purging Information	Volume of Water in Well:	(gal)				- 1	Measuring	Point Mark	ked:	Y	es X		No	
Purging Information	Three Well Volumes:	(gal)	7.0	9707		-	Well Diam	eter:	1*		1	Other:		
Cereitatic Pump)	Purging Information	Pump	on 6	1622	2									1
Tubing Malerial:   Silicone   Polyethylene   Teffon   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   Other:   O		Barnant	□ Ge	oPump >	<b>q</b> '	Submersible	Othe	er:			The state of the state of			6° ID
Duration of Pumping:	Tubing Material:	Silicone	¥ Po	lyethylene		Teflon	Othe	er.			SHEEDS OF A			
Average Pumping Rate: (mi/min)   00   Water-Quality Meter Type:   YSI-556 & Hach 2100P   Total Volume Removed: (gai)   2   1   Did well go dry:   Yes   Wo	Sampling Method:	Barnant		GeoPump	X s	Submersible	Othe	er.		1 gal = 3.	785 L =37	85 ml = 0	.1337 a	ubic feet
Average Pumping Rate:	Duration of Pumping:	(min)	80							Unit Sta	hility WI	TH THRE	RIDITY	<5 NTU
Total Volume Removed: (gal) 2 .   Did well go dry: Yes (6)	Average Pumping Rate:	(ml/min)	100	W	/ater-Quali	ty Meter Typ	e: YSI-		ach	- Т		CHEST CO. LANS.	A STATE OF THE REAL PROPERTY.	TO A SERVICION OF SE
Time:   1   2   3   4   5   6   7   8   9   10   11   1	Total Values Description	/D		1		Vid well as a	V		2			an included to		
Time:   Volume Purged (L)   16 32   16 34   16 42   16 44   16 52   16 58   17 03   17 08   17 13   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0   10 0	Total Volume Removed:	(gai)	2.1	1	L	ola well go ar	y: Yes	(NO	<u></u>					
Volume Purged (L)		1	2	3	4	5	6	7	8	9	Ι,	10	11	12
Rate (mL/min)		1637	11.32	1642	1647	1652	165	1703	1708	1713				
Depth to Water (ft.)   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'   10.90'						1000		-		100000000000000000000000000000000000000				
Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property   Property		-	-		-	.+-								
Temp. (C)    16.49   16.63   17.23   17.66   16.36   16.18   16.24   16.25     Conductivity (mS/cm)   1.100   1.00   1.003   1.103   (1.104   1.102   1.102   1.102     Dissolved Oxygen   2.4   2.9   3.3   2.9   3.7   1.7   (.9   1.8     ORP (mV)			-	+		1-1-								
Conductivity (mS/cm)  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100  I. 100		-	<del></del>	-		++		100000000000000000000000000000000000000		- 1700 11 1100 17				
Dissolved Oxygen  2.4 2.7 3.3 2.9 3.7 1.7 1.9 1.8  ORP (mV)  -91.5 -95.8 -99.0 -90.9 -102.4 -99.0 -100.7 -77.4 1  Turbidity (NTU)  Notes:  Distribution (Color? Odor? Turbid? Other?)  Initial Purge: Glar, No Odor  Vell Integrity Information  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  Ocking Protective Well Cap/expansion plug: Good.  Vell Lock Present? Mes. Lock Condition: Good.  Well Sample ID: Time:  Duplicate ID:  Duplicate ID:  Duplicate ID:  NA  3.7 1.7 1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.8  1.9 1.9  1.9 1.8  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9 1.9  1.9		1	<del>                                     </del>			-								
ORP (mV) -91.5 -95.8 -99.0 -90.9 -102.4 -99.0 -100.7 -77.4  Turbidity (NTU)   15.27   15.46   11.36   6.49   3.23   1.47   6.97    Notes:    Digital Wapter   Wapter   Wapter   Wapter		100				1-1-			1			4		
Turbidity (NTU)  Notes:    15.77   15.76   11.36	Dissolved Oxygen		-			1			1.9	A STREET HOLLOW				
Notes:    Botter   Died   Used Car   Died   Used Car   Died   Waspier     Analyses	ORP (mV)	-91.5			-90.9		-1024		-100.7					
Analyses # of Containers  Analyses Chorde, No Odor  Tital Purge: G(Lar, No Odor  Tocs (40 ml with H2SO4)  Tocs (1L Poly)  Total Metals (1L Poly)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (250 ml)  Total Metals (	Turbidity (NTU)	15.27	15.76	11.36	1			A STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STA	1.47	0.91				
Analyses # of Containers  Analyses # of Containers  TOCS (40 ml with H2SO4) Z Chloride, Sulfate, & Alkalinity. (250 ml)  Total Metals (250 ml) I Total Metals (250 ml) I Total Metals (250 ml) I Containers  Vell Integrity Information  Uniface Seal Condition (concrete pad, bolts, manhole cover): Good.  Ocking Protective Well Cap/expansion plug: Good.  Vell Lock Present? Yes. Lock Condition: Good.  Other:  Duplicate ID: NA  Sampled By: S. Harcus Log Reviewed By:  NA nalyses # of Containers  Analyses # of Containers  Chloride, Sulfate, & Alkalinity. (250 ml)  I Total Metals (250 ml) with HNO3)  I Not Under Oversight Split in Amount Totals  Sample ID: 1540036 Sample Time: 1748  Duplicate: Yes O  Duplicate: Yes O  Duplicate: Yes O  Duplicate: Yes O  Duplicate: VA  Sampled By: S. Harcus Log Reviewed By: WKX	Notes:						Used Car							
Analyses Containers  Analyses Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers  Containers		4				Plea	In adoles.							
TOCS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  Tinal Purge: Clear, No Odor  Vell Integrity Information  Urface Seal Condition (concrete pad, bolts, manhole cover): Good.  Ocking Protective Well Cap/expansion plug: Good.  Vell Lock Present? Mess. Lock Condition: Good.  Other:  DUERSIGHT SAMPLE ID:  TOCS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOCS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (40 ml with H <sub>2</sub> SO <sub>4</sub> )  TOS (1250 ml)  TOS (250 ml)  TOS (250 ml)  INCLUDE OVERSIGHT SPLIT IN AMOUNT TOTALS  Sample ID: TS 40036  MS/MSD: Yes Duplicate: Yes Duplicate: Yes Duplicate: Yes Duplicate ID: N/A  Sampled By: S. Haveus Log Reviewed By: With	Purge Water Description	(Color? Od	or? Turbid	Other?)		Ana	lyses		iners Ar	nalyses		100 miles 100 miles	TASS TO SELECT HIS REPORT	iners
Well Integrity Information  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  INCLUDE OVERSIGHT SPLIT IN AMOUNT TOTALS  Sample ID: 1540036  Sample Time: 1718  Without Time: Vigorian Sample Time: 1718  Duplicate ID: Vigorian Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed				· Other.)			н со х		Ch		ate, &			1
Well Integrity Information  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  urface Seal Condition (concrete pad, bolts, manhole cover): Good.  INCLUDE OVERSIGHT SPLIT IN AMOUNT TOTALS  Sample ID: 1540036  Sample Time: 1718  Without Time: Vigorian Sample Time: 1718  Duplicate ID: Vigorian Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: Without Sample By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed By: S. Haveus Log Reviewed	inal Purge: Closs,	No 00	lor			TSS	H <sub>2</sub> SO <sub>4</sub> )	-	To	tal Metals				,
urface Seal Condition (concrete pad, bolts, manhole cover): Good.  INCLUDE OVERSIGHT SPLIT IN AMOUNT TOTALS  INCLUDE OVERSIGHT SPLIT IN AMOUNT TOTALS  Sample ID: 1540036  Sample Time: 178  MS/MSD: Yes Duplicate: Yes Duplicate: Yes Duplicate: Yes Duplicate ID: VA  Sampled By: 5. Haveus Log Reviewed By: WX							al)	1	NACIONALINE REGION	(3)(F) * (75) 3) (1)(E) 5.64	NO <sub>3</sub> )			
Sample ID: 1540036  Sample Time: 178  Well Lock Present? 45. Lock Condition: Good.  When ther:  Duplicate ID: 1540036  Sample Time: 178  MS/MSD: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate ID: NA Dup. Time: NA  Sample ID: 1540036  Sample ID: 1540036  MS/MSD: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate ID: NA  Sample ID: 1540036  MS/MSD: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate ID: NA  Sample ID: 1540036  MS/MSD: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate ID: NA  Sample ID: 1540036  MS/MSD: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Yes Diplicate: Ye		The second	olts manho	e cover).					(25	50 ml)			1	
Well Lock Present? 4.5. Lock Condition: Good.  MS/MSD: Yes Duplicate: Yes Duplicate: Yes Duplicate: Yes Duplicate ID: NA Dup. Time: NA  Sample ID: 1540036 Sample Time: 1+18  MS/MSD: Yes Duplicate: Yes Duplicate: Yes Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  MS/MSD: Yes Duplicate: Yes Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  MS/MSD: Yes Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  MS/MSD: Yes Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  MS/MSD: Yes Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  MS/MSD: Yes Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Sample ID: 1540036 Sample Time: 1+18  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplicate: Yes NA  Duplica					000.				RSIGHT SP	LIT IN AMO	OUNT TO	TALS		
Duplicate ID:  Duplicate ID:  Sampled By:  Log Reviewed By:  WX  Dup. Time:  N/A  Dup. Time:  N/A  Sampled By:  Sampled By:  Sampled By:  Sampled By:  Dup. Time:  N/A						Sample ID:		-					718	
Duplicate ID:  Dup. Time: NA  Sampled By: S. Harcus Log Reviewed By:		Lock Cond	111011. (50)	od,		MS/MSD:	Yes	(No)	Duplic	cate:	Yes	M		
Sampled By. S. Harcus Log Reviewed By. MX						Duplicate II	D: N/6	ŧ		Duj	o. Time:	NA		
	OVERSIGHT SAMPLE	ID:		TIME		Sampled B	5.He	arcus	Log R	eviewed By	:	١	KK	
						All samples	s submitted u	nder COC t	to TAL of Sou	uth Burlingto	on, Vermo		1	

## Kalamazoo River Study Group – Plainwell TCRA,

#### **GROUNDWATER SAMPLING LOG**

Plainwell, Michig	an								2	ASK				
Sampling Personnel:	5. H	arcus					Well II	): A		1	1W-	9		
Client / Job Number:		89.0000 Ta					Date:	9/2	2/09					
Weather: \$10F	Partly Cle	oudy , Lie	ht Wing				Time i	n: 134	8	Time	Out: 15	525		
Well Information	,	15.5	-1		_									
Depth to Water:	(feet)	15.5		(TIC	<u>)                                    </u>	Well Type	<b>3</b> :			Flushmou	int 🗆		Stick-Up	1
Total Depth:	(feet)	19.4		(TIC	<u>)                                    </u>	Well Mate	erial:		S	Stainless Ste	el V		PVC	
Length of Water Column:	(feet)	3.9			_	Well Lock	ked:			Y	es 🖹		No	
Volume of Water in Well:	(gal)	0.0			_	Measuring	g Point	Marked:		Y	es 🔀		No	
Three Well Volumes:	(gal)		_		_	Well Dian	neter:		1"		2° V	Other	100	
Purging Information	Pump 6	0 13	54											
Purging Method: (Peristaltic Pump)	Barnant	G	eoPump \	X	Submersible	Othe	er:				Conver	sion Fa	ctors	
Tubing Material:	Silicone	X Po	olyethylene		Teflon	Othe	er.			gal / ft. of water	1° ID	2° ID	4° ID	6" ID
Sampling Method:	Barnant	П	GeoPump	8	Submersible	☐ Othe	er:				0.041 785 L =37	0.163	0.653	
Duration of Pumping:	(min)	90								. 3		00 1111	0.1001 0	abio icci
Average Pumping Rate:	(ml/min)		,	Votor Ouel	ity Motor Tyro	YSI	-556 8	& Hach		T	bility, WI	T		estatura de la companya de la companya de la companya de la companya de la companya de la companya de la compa
Average Fullipling Rate.	(ml/min)	100		vater-Quar	ity Meter Type		2100	P		pH	DO	Con		ORP
Total Volume Removed:	(gal)	2.3	8	ו	Did well go dry	r: Yes		No		∀ 0.1	<b>∀</b> 10%	∀ 3.	0%   \	√ 10 mV
	1 1	2	3		1 5	6		7	8	9	1 .	10	11	1:
Time:	1404	1409	1414	1419	Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Contro		1							
Volume Purged (L)	1.0	1.5	2.0	2.5	3.0	3.5	$\sqcap$							
Rate (mL/min)	100	100	100	100	100	100	$\vdash$		1					
Depth to Water (ft.)	15.55	15.56	15.55	15.55		15.55	++			110	1			
pH	7.30	7.27	7.27	7.27		7.27	++			W/	t -			
Temp. (C)	15.59	15.52	15.47	15.41		15,37	++			1				
Conductivity (mS/cm)	0.981	0.978	0.977	0.976		0.974	1					1		
Dissolved Oxygen	0.39	0.26	0.24	0.20	0.21	0.23						+		
ORP (mV)	-83.1	-82.8	-82.7	-83.4		-84.4								
Turbidity (NTU)	7.51	5.55	3,92	4.19	3.32	3.26		1.1						1
Notes:	1.00	7.57	1112	(.(1	1.12	7.20	-1 (9)	1						
							Slad	ezed						
Purge Water Description	(Color? Od	or? Turbid	? Other?)		Anal	yses	# Co	of ntainer	s Ar	nalyses			# of Conta	iners
nitial Purge: Clear,	No Odo	ıc			TOCs	1.00)		2		loride, Sulfa	ite, &		1	
Final Purge: Class	No ode	or			(40 ml with I	12504)		Ι	To	tal Metals			1	
Well Integrity Information					(I L Poly) PCBs (Total	)	0	100	TO	50 ml with H	NO <sub>3</sub> )		1	
Surface Seal Condition (cor	ncrete pad, b	olts, manho	le cover): 6	seed.	(Amber)		2+	/ CDI	1 (20	50 ml)				
ocking Protective Well Ca						INC	LUDE (	OVERSION	GHT SP	LIT IN AMO	UNT TO	TALS		
Well Lock Present? Yes					Sample ID:	T540					nple Time	-	19	
	LOCK COILG	uon. 666	a		MS/MSD:	Yes	C	9	Duplic	cate:	res C	No		
Other:					Duplicate ID	-				Dup	. Time:	-		
OVERSIGHT SAMPLE I			TIME		Sampled By	5.H	arev	5	Log R	eviewed By		MFK	,	
PGW-MW9	-01		19	49	All samples				L of Sou	uth Burlingto				

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	5. H	areus					Well	ID.	MW-					
Client / Job Number:	B006453	9.0000 Ta					Date:		123/0	9				
Weather: 774	of over	ast,	Mist /s	prinkle	No.		Time	in: 1	100	Time	Out:	300		
Well Information		9.38'				Moll Type								$\overline{I}$
Depth to Water:	(feet)	12.4	<b>5</b> ′	(TIC)		Well Type				Flushmo	1		Stick-Up	<del></del>
Total Depth:	(feet)	3.07		(TIC)		Well Mate	100.00			Stainless Ste	ATTENDED		PVC	Ш
Length of Water Column:  Volume of Water in Well:	(feet) (gal)	0.5				Well Lock	ed:			<u> </u>	es 🗡		No	
Three Well Volumes:	(gal)	1.5				Measuring	Poin	t Marke	ed:	Y	es 🔊		No	
Purging Information	Pump	an 1	107			Well Diam	neter:		1*		2* √	Other:		
Purging Method: (Peristaltic Pump)	Barnant [		eoPump	× 5	Submersible	Othe	er:				Conve	sion Fa	ctors	July 18
Tubing Material:	Silicone	N Po	olyethylene		Teflon	Othe	er.			gal / ft. of water	1° ID	2° ID	4" ID	6" ID
Sampling Method:	Barnant		GeoPump	'S s	ubmersible	Othe	er.				0.041 .785 L =37	0.163 785 ml = 0	0.653 0.1337 cu	1.469 ubic feet
Duration of Pumping:	(min)	110		<i>(</i>					—					
Average Pumping Rate:	(ml/min)	100	V	/ater_Oualit	ty Meter Type	. YSI		& Ha	ch	-	bility, W	1	-	MINISTER OF THE REAL PROPERTY.
	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			aici-Quant	y wieter rype		210			pH	DO	Con		ORP
Total Volume Removed:	(gal)	2.0	1(	D	id well go dry	: Yes		No	2	∀ 0.1	∀ 10%	∀ 3.	0%   V	10 mV
Time:	1117	1122	1127	1132	1137	1142	1	7	8	3 9		10	11	12
Volume Purged (L)	#1.0	1.5	2.0	2.5	3.0	3.5	11	1						
Rate (mL/min)	108	Loo	100	100	(00	100	1		1					
Depth to Water (ft.)	9.39'	9.38	9.38	9.39	9,38	9.38			1					
pH	7.04	7.04	7.04	7.04		7.05		1						
Temp. (C)	17.08	17,10	16.95	16.94	16.90	16.87		1		1	1013	5		
Conductivity (mS/cm)	1.332	1.317	1.308	1.304		1.298		+		1	Mal	4		
Dissolved Oxygen	0.60	0.26	0.26	0.23	0.22	0.22		1		(	PA	4		
ORP (mV)	-80.4	-84.5	-86.8	- 85,9		-77.0		$\neg$				1		
Turbidity (NTU)	14.18	9.73	5,47	3.73	2.56	2.49	-	-					1	
Notes:	Pitto	"17	7,77	17.17	2.70	2(1	CI	(1)						
	1						Ha	biliz	ed					
Purge Water Description	(Color? Ode	or? Turbid	? Other?)		Anai	lyses		of ontain	ners <sup>A</sup>	Analyses			# of Contai	ners
nitial Purge: Clear, linal Purge: Clear	No oc	lor			TOCs (40 ml with	H₂SO₄)		4	A	Chloride, Sulf Alkalinity. 250 ml)	ate, &		2	
inal Purge: Clear	No O	dor			TSS (I L Poly)			2	T	otal Metals 250 ml with h	INO <sub>3</sub> )		2	
Vell Integrity Information					PCBs (Tota (Amber)	1)		4	Т	DS 250 ml)	1		2	
urface Seal Condition (con	ncrete pad, b	olts, manho	le cover): (	Good.	( amount	INC				PLIT IN AMO	DUNT TO	TALS	-	
ocking Protective Well Ca	p/expansion	plug: G	ood.		Comple IC:	/-•			J.J., J				100	
Vell Lock Present? 4es,	Lock Condi	ition: Go	od.	-	Sample ID: MS/MSD:	7541 Yes		O (ON	Dupl		mple Tim	e: [[	48	
Other:					Duplicate ID	TCA	- (	_					đ	
OVERSIGHT SAMPLE I	D: , ,	est c	TIME	.	Sampled By					Reviewed By	p. Time:	121	8	
No	dverst.	gri dam	ple L			2. Har				outh Burlingt		MFK ont.		
	40	L. L. M	1-10	THE RESIDENCE				0		g	,			

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	1. KONA						Well ID:	MM-			4			
Client / Job Number:		9.0000 Tas				a la la la la la la la la la la la la la	Date:	9 23				110		All of the
Weather: 70°F	Overe	ST, LT	Wrg.				Time In:	090	0	Time	Out:	1140		
Well Information '		000			-	Mall Tone			- 1					-1
Depth to Water:	(feet)	8.38		(TIC)		Well Type				Flushmou	int 🗆	S	tick-Up	<u> </u>
Total Depth:		4.57		(TIC)	-	Well Mate			St	tainless Ste	el V		PVC	
Length of Water Column:  Volume of Water in Well:	(feet) (gal)	0.75				Well Lock	ed:			Y	es 🔉		No	
Three Well Volumes:		2.25	-			Measuring	Point Ma	arked:		Y	es 🗡		No	
	Pemp a	81,127	910			Well Diam	eter:		1"		2* √	Other:		-
Purging Method: (Peristaltic Pump)	Barnant			¥ 5	Submersible	Othe	er:				1	sion Fac	Professional Control	
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	er.	T.		gal / ft. of water	1° ID	2" ID 0.163	4" ID 0.653	6" ID
Sampling Method:	Barnant		GeoPump	S	ubmersible	Othe	er.			1 gal = 3.	785 L =37			
Duration of Pumping:	(min)	100	3							Unit Sta	bility, Wi	TH TI IDE	RIDITY.	<5 NTII
Average Pumping Rate:	(ml/min)	(00)	v	/ater-Qualit	y Meter Type	YSI-	556 & 2100P			pH	DO DO	Cond		ORP
Total Volume Removed:	(gal)	10		n	id well go dry	r: Yes		NO	_	∀ 0.1	∀ 10%	∀ 3.0		10 mV
Total Volume Nemoved.	(gai)	10	<u> </u>		id their go dry	. 103		190						
	1	2	3	4		6		7	8	9	1	10	11	12
Time:	0920	0925	0930	0935		0945								
Volume Purged (L)	1.00	1.50	2.00	2.50	300	3.50								
Rate (mL/min)	100	100	100	100	100	100								
Depth to Water (ft.)	8.38	8.38	8.38	8.38	8.38	8.38					. /			
pH	7.10	7.14	7.19	7.16	7.20	7.22				) ANE	X			
Temp. (C)	15.57	15.56	15.51	15.48	15.43	1548				1				
Conductivity (mS/cm)	0.964	0.923	0.916	0.905	0.900	0.894			/					
Dissolved Oxygen	0.30	0.34	0.27	0.22	0.26	0.21		1	/					
ORP (mV)	-79.5	-720	.67.3	-62.6	-63.4	-61.8		1						
Turbidity (NTU)₃	7.49	5.34	4.10	2.42	1.91	1.48	/							
Notes:														,
Purge Water Description (	Color? Ode	or? Turbid	? Other?)		Anal	yses	# of	tainers	Ar	alyses			# of Contai	ners
Initial Purge: CLEAR,	P0 0	DOE			TOCs (40 ml with I	H <sub>2</sub> SO <sub>4</sub> )	2		Alk	loride, Sulfa alinity. 60 ml)	ate, &	2		
Final Purge: CER	No	abab			TSS (I L Poly)	2	- 1		To	tal Metals 0 ml with H	NO <sub>3</sub> )	2		
Well Integrity Information	1				PCBs (Total (Amber)	) 4			TD			7		
Surface Seal Condition (con	crete pad, b	olts, manho	le cover):	0000		INC	LUDE OV	/ERSIGH	1	IT IN AMO	UNT TO	TALS (	3945	
Locking Protective Well Ca	p/expansion	plug: Goe			Sample ID:						nple Time			
Well Lock Present?	Lock Condi	tion: Go	ю		MS/MSD:	15 40 Yes	044	, [	Duplic		Yes	No No	45	
Other:					Duplicate ID	· 7540	OH E			Dui	o. Time:			
OVERSIGHT SAMPLE I	D:		TIME		Sampled By	1 2 4	, , ,	Ti	og R	eviewed By		11		
PGW-MW	11-01		091	15	All samples		hagen nder coo		of Sou	rth Burlingto		AC ont.		
				L										

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	S. Har	rcus					Well ID:	MW-						
Client / Job Number:	B006453	39.0000 Ta	sk 00500				Date:	9/23/				101-		
Weather:				<u> </u>			Time In:	0830	>	Time	Out:	1010	Walls of	
Well Information		10.18	,		- 11	-								
Depth to Water:	(feet)	10.14	9 '	(TIC)		Well Type:				Flushmou	unt [		Stick-Up	
Total Depth:	(feet)	11.99		(TIC)		Well Mater	ial:		S	tainless Ste	el 1		PVC	
Length of Water Column:	(feet)	0.3				Well Locke	ed:			Y	es	X	No	
Volume of Water in Well:	(gal)	0.9			_	Measuring	Point Ma	arked:		Y	es 🔀	Κ	No	
Three Well Volumes:	(gal)	np on (		4	-	Well Diame	eter:		1"		2* 1	Other	F	
Purging Information Purging Method:	Barnant				Submersible	Other					Conv	ersion Fa	actors	
(Peristaltic Pump)	Cilicono	₩ P		<u>~</u>	Teflon				-	gal / ft.	1" ID	2" ID	4" ID	6" ID
Tubing Material:	Silicone	X r	olyethylene	Ш	Tellon	Other	Г.		_	of water	0.041	0.163	0.653	1.469
Sampling Method:	Barnant		GeoPump	<b>≥</b> S	ubmersible	Othe	r:			1 gal = 3	.785 L =	3785 ml =	0.1337 c	ubic feet
Duration of Pumping:	(min)	85							_	Unit Sta	bility. V	WITH TUE	RBIDITY	<5 NTU
Average Pumping Rate:	(ml/min	100	, v	/ater-Qualit	y Meter Type	e: YSI-	556 & 2100P			pН	DO	Co		ORP
Total Volume Removed:	(gal)	2.2	5	D	id well go dr	y: Yes		No.	-	∀ 0.1	∀ 10°	% ∀3	.0%	√ 10 mV
	1 1	2	3	1 4	5	1 6		7 ]	- 8	9		10	11	1:
Time:	0851	0856	0901	0906	0911	0916			٥	9				,
Volume Purged (L)	~1.0	~1.5	2.0	2.5	3.0	3.5								/
Rate (mL/min)	100	100	100	100	100	100							/	
Depth to Water (ft.)	10-25	10.25	10.25	10.25	10.25	10.25								
рН	6.94	6.97	7.00	7.01	7.02	7.02				6	The	/		
Temp. (C)	17.60	17.56	17.95	17.51	17.54	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					1			
Conductivity (mS/cm)	0.838	0.828	0.821	0.819	0.818	0.818				To the second	V			
Dissolved Oxygen	0.33	0.33	0.31	0.27	0.28	0.27			/		1			
ORP (mV)	-50.6	-46.9	-44.4	-42.5		-38.9		17						
Turbidity (NTU)	2,15	1.40	1.29	0.96	0.65	1.02								
Notes:		1010	1.2	100	10.00	Fable	/							
			1	Г		Table					<u> </u>			
Purge Water Description	(Color? Od	lor? Turbid	? Other?)		Ana	lyses	# of Con	tainers	Aı	nalyses			# of Conta	iners
initial Purge: Clear,					TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	2	-	All	iloride, Sulf calinity. 50 ml)	ate, &		1	
Final Purge: Clear	, No 0	dor			TSS (I L Poly)		1		To	tal Metals 50 ml with h	łNO <sub>3</sub> )		1	
Well Integrity Informatio					PCBs (Total (Amber)	al)	2		TE	SATISFIES HERBERT			1	
Surface Seal Condition (con	ncrete pad, l	oolts, manho	ole cover): (	Tood.		INCI	LUDE O	/ERSIGH		LIT IN AMO	DUNT T	OTALS		
ocking Protective Well Ca	ap/expansion	n plug: Yes	6000	(.	Sample ID:	Telo	12			Sa	mple Ti	me: 1)	933	
Well Lock Present? Wes.	Lock Cond	lition: 6	od.		MS/MSD:	T5400	No		Duplic		Yes	No)	(7)	
Other:					Duplicate II	D: N/A	,			Du	p. Time			
OVERSIGHT SAMPLE I	D:		TIME	:		5. Harc			Log R	eviewed By		N		
						Submitted un					1	mont		Calculation (S
					All samples	submitted ti	idei CO	C to IAL	UI 30	uur buriirigi	on, ven	mone.		

#### **GROUNDWATER SAMPLING LOG**

Client / Job Number:		9:0000 Tas	k 00500				Date:	1123/0	*			100	
Weather: 75° -	OVERCY	T, C	um			-	Time In:	1200	7 Time	Out: [	323		
Depth to Water:	(feet)	0.07		(TIC)	-	Well Type	:		Flushmo	ount 🗆	Stick	c-Un	V
Total Depth:		5.00		(TIC)		Well Mate			Stainless St	- 1		PVC	
Length of Water Column:		4.93				Well Locke	ed:			Yes 🔀		No	
Volume of Water in Well:	(gal)	0.80				Measuring		arked:		Yes X		No	
Three Well Volumes:	(gal)	2.40	)			Well Diam			1" [	2° \	Other:	NO	
Purging Information	PUMP	on a	1210	)						2 1			_
Purging Method: (Peristaltic Pump)	Barnant		_		Submersible	Othe	r.			1	rsion Facto		
Tubing Material:	Silicone	Po	lyethylene	П	Teflon	Othe	r.		gal / ft. of water	1' ID		4" ID	6" ID
Sampling Method:	Barnant	П	GeoPump	S	Submersible	☐ Othe	r.			0.041	0.163 0 785 ml = 0.13	0.653 337 cut	1.469 bic feet
Duration of Pumping:	(min)	75									1		
Average Pumping Rate:	(ml/min)		10	later Ouali	ty Meter Type	YSI-	556 &	Hach		Contractor of the last	TH TURBIC		In the later of
Average Fullipling Nate.	(111/11111)	leo		rater-Quali	ty weter Type		2100P	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	pH ∀ 0.1	DO ∀ 10%	Cond.	-	ORP
Total Volume Removed:	(gal)	1.99	5		oid well go dry	: Yes	(	No	[ V U.1	V 10%	∀ 3.0%	1 V	10 mV
	1 100	1225	3	4		6		7	8 9	9	10	11	1
Time:	1220	1.5	1230	1235		1245							
Volume Purged (L)	1		2.0	2.5	3.0	3.5						1	
Rate (mL/min)	100	100	100	100	100	100		+					
Depth to Water (ft.)	10.09	10.09	10.09	10.09	10.09	10.09				1			
pH (O)	768	7.64	7,65	7,68	7.69	7,68							
Temp. (C)	15.87	16.82	15.90	15.78	15.70	15.71			/				
Conductivity (mS/cm)	148.	.851	.856	1857		.857		-	1				
Dissolved Oxygen	\$311		133	,23	,21	,20							
ORP (mV)	-93.4	-92.4 3.40	-96.9	-98.9	-99.4	=97.1	/	1					
Turbidity (NTU) Notes:	4.85	3.710	3.48	2.40	2.40	07.38	-						
						Stability	ed						
urge Water Description	(Color? Ode	or? Turbid	? Other?)		Anal	yses	# of Con	tainers	Analyses		# ( Cc	of ontair	ners
nitial Purge: Clear,			· Other · /		TOCs (40 ml with l	4.50.)	2		Chloride, Sul Alkalinity.	fate, &	1		EBRUE-
inal Purge: Clear	No od	or			TSS	12504)			(250 ml) Total Metals		•		
Vell Integrity Information					(I L Poly) PCBs (Total	)	1		(250 ml with TDS	HNO <sub>3</sub> )			
		olts, manho	le cover):	the.	(Amber)		2		(250 ml)		J		
urface Seal Condition (cor ocking Protective Well Ca	n/expansion	nlug: Uac	New)	Vevi.		INC	LUDE O	/ERSIGHT	SPLIT IN AM	OUNT TO	TALS		
Vell Lock Present? Yes					Sample ID:	T540	840			ample Time	- "	10	
ther:	LOCK COND	TOTAL TAKEN			MS/MSD:	Yes	No	· Di	iplicate:	Yes	(N)		
uiol.					Duplicate ID		•		De	up. Time:			
VERSIGHT SAMPLE I	D.		TIME	. 1	Sampled By				g Reviewed B				

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel: Client / Job Number:		9.0000 Tas	k 00500				Well ID:	W-1-	<u> </u>				
Weather: 68°F	SUMMU	9.0000 Tas	SK 00500				Time In: 104	-	Time	Out:	710		
Well Information	9			1026									
Depth to Water:	(feet)	7.70		(TIC)		Well Type			Flushmou	int 🗆	s	tick-Up	1
Total Depth:	(feet)	11.6	0'	(TIC)		Well Mate	rial:	s	tainless Ste	el $\sqrt{}$		PVC	
Length of Water Column:	(feet)	3.8			<u>-</u>	Well Lock	ed:		Y	es 🗡		No	
Volume of Water in Well:	(gal)	0.62			-	Measuring	Point Marked:		Y	es 🕱		No	
Three Well Volumes:	(gal)	1.86	THE RESERVE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE		-	Well Diam	eter:	1"		2 1	Other:		
Purging Information	fump	on G	1058										
Purging Method: (Peristaltic Pump)	Barnant [	☐ Ge	eoPump >	<b>(</b> )	Submersible	Othe	rr.			Conver	sion Fac	d* ID	6" ID
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe	er.		gal / ft. of water	0.041	0.163	0.653	1.469
Sampling Method:	Barnant		GeoPump	X s	ubmersible	Othe	er.		1 gal = 3.	785 L =37	85 ml = 0	).1337 cu	ıbic feet
Duration of Pumping:	(min)	65		X					Unit Sta	bility, Wi	ти тпе	RIDITY	<5 NTI
Average Pumping Rate:	(ml/min)	100	W	ater-Qualit	ty Meter Type	YSI-	556 & Hach	h	pH	DO DO	Con		ORP
Total Volume Removed:	(gal)	1.71	L	D	id well go dry	: Yes	2100P	<del>1</del>	∀ 0.1	∀ 10%	∀ 3.0	STREET, SQUAR	/ 10 mV
Time:	1108	1113	1118	1123		1133	1138	8	9		10	11	1
Volume Purged (L)	1.0	1.5	2.0	2.5	3.0	3.5	4.0						/
Rate (mL/min)	100	100	100	100	100	100	100					/	
Depth to Water (ft.)	7.79	7.79	7.79	7.79	7.79	7.79	7.79				/		
pH	7.05	7.05	7.09	709	-	7.06	7-06			AP	1		
Temp. (C)	15,29	15.20	15.16	15,12	15.14	15.13	15.09		/	MH	1		
Conductivity (mS/cm)	0.867	0.868	0.870	0.870	0.87	0.871	0.871		6	W K			
Dissolved Oxygen	0.40	0.47	0.48	0.44	0.28	0.16	0.16		/				
ORP (mV)	-76.8	-79.8	-80.8	-82.0		-81.4	-82.3	,					
Turbidity (NTU)	3.93	4.64	2.60	1.73	3.94	3.79	2.59	/					
Notes:				(			Stable	1					
	1	L	l		1								
urge Water Description	(Color? Od	or? Turbid	2 Other?)		Anal	yses	# of Containe	rs Ar	nalyses			# of Contai	iners
nitial Purge: No Color		315			TOCs		2	Ch	loride, Sulfa	ate, &		1	
inal Purge: No Colo				600 1000	(40 ml with I	H <sub>2</sub> SU <sub>4</sub> )	,	To	tal Metals			1	
Vell Integrity Informatio					(I L Poly) PCBs (Total	)	2+	, TD		NO <sub>3</sub> )		1	
urface Seal Condition (con	ncrete pad, b	olts, manho	le cover):	cellent	(Amber)			DMI	50 ml)			'	
ocking Protective Well Ca			7 10 10 10 10				LUDE OVERS	IGHT SP	LIT IN AMC	UNI 10			
ell Lock Present? Yes,					Sample ID:	T5400	050	Duplic		mple Time	NO NO	141	1
ther:		,,,	0000		MS/MSD:	163		Dupiic					
VERSIGHT SAMPLE I	D:		TIME		Duplicate ID			T 1 = 5		o. Time:			
이 경기 전에 가지하게 하셨다면 살아 나는 이 그렇다는 그렇다 이 그리고 있어야 해야 했다. 그 그 나					Sampled By: S. Hareus Log Reviewed By: M-K								
PGW-MW14.	All samples	submitted u	nder COC to T	AL of Sou	th Burlingto	on, Vermo	ont.						

# Kalamazoo River Study Group – Plainwell TCRA,

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	5. Ho	ireus	/J. B	ender			Vell ID:	MW	1-15				
Client / Job Number:		9.0000 Tas	1					7/25	109				
Weather: 66°F	Junny							0940		Out:	1140		
Well Information	J												
Depth to Water:	(feet)		8.80		_	Well Type:	7		Flushmou	ınt 🗆	8	tick-Up	1
Total Depth:	(feet)		14.50	(TIC)	-	Well Mater	ial:		Stainless Ste	el V		PVC	
Length of Water Column:	(feet)		5.61		- 1	Well Locke	d:		Y	es 🛮		No	
Volume of Water in Well:	(gal)		2.73		-	Measuring	Point Mar	ked:	Y	es 🕱		No	
Three Well Volumes:	(gal)		2.12			Well Diame	eter:		1" [	2 1	Other:		
Purging Information	tow	9 0 0	955		F								
Purging Method: (Peristaltic Pump)	Barnant [	] G	eoPump	X S	Submersible	Other				Conver	sion Fa	d' ID	6" ID
Tubing Material:	Silicone	N Po	olyethylene		Teflon	Other			gal / ft. of water	0.041	0.163	0.653	1,469
Sampling Method:	Barnant		GeoPump	X s	ubmersible	Other			1 gal = 3	785 L =37			
Duration of Pumping:	(min)	100							I Init Ct	hilifar 187	TU TUR	עדוחום	E NTU
Average Pumping Rate:	(ml/min)	100	V	/ater-Qualit	y Meter Type		556 & H	lach	pH pH	bility, WI	Con		ORP
			A				2100P		- ∀ 0.1	∀ 10%	∀ 3.0	C (1.25-11) 1 1662	/ 10 mV
Total Volume Removed:	(gal)	2.6	<u> </u>		id well go dry	: Yes		(e)					
	1010	2	3	4	5	6	17		8 9		10	11	12
Time:	<del></del>	1015	1020	1025	1030	1035	1						
Volume Purged (L)	1.0	1.5	2.0	2.5	3.0	3.5		1					
Rate (mL/min)	100	100	100	100	160	100							
Depth to Water (ft.)	8.89	8.89	8.89	8.89	8.84	8.89			AT	Cum			
рН	7.06	7-06	7.06	7.86	7.07	7.07			1	4)			
Temp. (C)	14.74	14.67	14.63	14.67	14.67	14.63			KV	X			
Conductivity (mS/cm)	1.165	1.159	1.151	143	1.141	1.141				1	1		
Dissolved Oxygen	0.76	0.24	0.24	0.17	0.16	0.16						1	
ORP (mV)	-77.6	-80.7	-80,8	-82.1	-82.6	-82.6	1						
Turbidity (NTU)	8.44	8.50	5.35	2.38	1.87	0.80	1	1					1
Notes:				THE STATE OF		Stalle		4					1
				Г			# of					# of	
Purge Water Description (	Color? Odo	or? Turbid	? Other?)		Anal	yses	Conta	ainers	Analyses			Contai	ners
Initial Purge: Clear,	No 00	dor			TOCs (40 ml with I	H <sub>2</sub> SO <sub>4</sub> )	7		Chloride, Sulfa Alkalinity. (250 ml)	ate, &	)		
Final Purge: Clear,	No O	dor			TSS (I L Poly)	1			Total Metals (250 ml with H	INO <sub>3</sub> )	1		
Well Integrity Information					PCBs (Total (Amber)	) 7	+1	CDM	TDS (250 ml)		1		
Surface Seal Condition (con-	crete pad, be	olts, manho	le cover): $\lambda$	lew	(Alliber)	Total Control			T SPLIT IN AMO	NINT TO	7 1 2 1 4 7		
Locking Protective Well Cap	p/expansion	plug: 40	s. New					LNSIGH					
Well Lock Present? Yes						T540°	49			mple Time Yes		46	
Other:					MS/MSD:		(6)				<u>(NO)</u>		
OVERSIGHT SAMPLE II	D:		TIME		Duplicate ID		_			p. Time:		-	
PGW-MW!			104		Sampled By	S. Ha	reus		og Reviewed By	14	FK		
12M-11M1	) 0(		, , ,		All samples	submitted un	der COC	to TAL o	of South Burlingto	on, Vermo	ont.		

# Kalamazoo River Study Group – Plainwell TCRA,

#### **GROUNDWATER SAMPLING LOG**

Plainwell, Michig	gan								SW	SM	APLE	0	
Sampling Personnel:	M. KOHA	NEW .					Well ID:	SEM	, –,,	S	APLE 5-5		
Client / Job Number:	B0064539	9.0000 Tas	sk 00500				Date:	9/21	4			H.J.	
Weather: 70° F	PARTLY	CLOUDY					Time In:	1420	Time	Out:	1450		
Well Information													
Depth to Water:	(feet)			(TIC)		Well Type:			Flushme	ount 🗆	S	tick-Up	1
Total Depth:	(feet)			(TIC)		Well Mater	ial:		Stainless S	teel V		PVC	
Length of Water Column					-	Well Locke	ed:			Yes 🗌		No	
Volume of Water in Well					- 3/5/6/	Measuring	Point Mar	ked:		Yes 🗌		No	
Three Well Volumes:	(gal)		:t		- 30.0	Well Diam	eter:		· 🗆	2° V	Other:		
Purging Information				T Laborat									
Purging Method: (Peristaltic Pump)	Bamant	Ge	eoPump	5	Submersible	☐ Othe	г.			Conve	sion Fac	tors	
Tubing Material:	Silicone	Po	lyethylene		Teflon	Othe			gal / ft. of water	1° ID	2" ID	4" ID	6" ID
Sampling Method:	Barnant	П	GeoPump	s	Submersible	Othe	T.			0.041 3.785 L =37	0.163 785 ml = 0	0.653	1.469 ubic feet
Duration of Pumping:	(min)												
	(ml/min)		10/-4	or Ovoli	ty Meter Type:	YSI-	556 & H	ach		ability, WI	1		
Average Pumping Rate:	(mirmin)		vvate	er-wuali	y weter Type:		2100P		pH	DO	Con		ORP
Total Volume Removed:	(gal)			D	oid well go dry:	Yes	N	lo	∀ 0.1	<b>∀</b> 10%	∀ 3.0	1%	/ 10 mV
	1 1	2	3	4	5	6	7		8	9	10	11	12
Time:	1430	_			1 1 1 1 2								
Volume Purged (L)	172							-					/
Rate (mL/min)								-			And the second		
Depth to Water (ft.)							7						
pH	0111					ME	1						
	18.41					1	/						
Temp. (C)	19,95												
Conductivity (mS/cm)	0.729			/	1								
Dissolved Oxygen	10.60												
ORP (mV)	210.0												
Turbidity (NTU)  Notes:	33.31	/											
Notes.													
Purge Water Description	n (Color? Odo		Othor?)		Analy	/ses	# of Conta	iners	Analyses			# of Conta	inare
			. Other . j		TOCs		_		Chloride, Su	fate, &			
initial Purge: CVE	AR, NO	-100			(40 ml with F	I <sub>2</sub> SO <sub>4</sub> )	6		Alkalinity. (250 ml) Total Metals		-	3	
		Obce			(I L Poly)		3		(250 ml with	HNO₃)		3	
Well Integrity Informati	<u>on</u>				PCBs (Total) (Amber)		6		TDS (250 ml)		~	?	
Surface Seal Condition (co	oncrete pad, bo	lts, manhol	e cover):			INCL		RSIGHT	SPLIT IN AM	OUNT TO	TALS		
ocking Protective Well (	Cap/expansion	plug:											
Well Lock Present?	Lock Condit	tion:			Sample ID:	T 5 3	No No	Dii	Si plicate:	mple Time	e: 14	30	
Other:					MS/MSD:			- 50	poa(c.	.63	<u></u>		
OVERSIGHT SAMPLE	m·		TIME:		Duplicate ID:		A			up. Time:			
TENSION SAMELE	II.		THATE:		Sampled By:	ME	<	Log	Reviewed E	y: M	K		
					All samples s	submitted ur	der COC	to TAL of	South Burling	ton, Vermo	ont.		1 10 1000

#### **GROUNDWATER SAMPLING LOG**

Sampling Personnel:	M. KOHACEN				~ ~ 1	- 11/14	56-		-		
Weather: 65° F		00 Task 00500			Date: 9[3	24107 345	Time	Out: 1	415		
Well Information	, 1 1 1 2	wor, 2, 2000			rane m. s	317	Time	out. ,	1.2		
Depth to Water.	(feet)		TIC)	Well Type	ı:	275	Flushmou	unt 🗆	Stic	:k-Up	
Total Depth:	(feet)		TIC)	Well Mate	erial:	s	tainless Ste	el V		PVC	
Length of Water Column	: (feet)			Well Lock	ed:			es 🖯		No	$\overline{\Box}$
Volume of Water in Well:	(gal)			Measurin	Point Marked			es 🗆		No	
Three Well Volumes:	(gal)			Well Dian		1"		2° V	Other:	140	
Purging Information								2 1			
Purging Method:	Barnant	GeoPump	Submersible	☐ Oth	er:			Conver	sion Facto	ors	
(Peristaltic Pump)  Tubing Material:	Silicone	Polyethylene	Teflon	Oth	·r		gal / ft.	1° ID	2° ID	4° ID	6° ID
	Barnant	GeoPump	Submersible				of water	0.041		0.653	1.469
Sampling Method:		ooor ump	Cubinerable	Oth	<b>⊋r.</b>		1 gal = 3.	.785 L =37	85 ml = 0.1	337 cu	bic feet
Duration of Pumping:	(min)			VO	EEC 0 11- 1		Unit Sta	bility, WI	TH TURBI	DITY <	5 NTU
Average Pumping Rate:	(ml/min)	Water-C	tuality Meter Typ	e: YSI	-556 & Hacl 2100P	n	pН	DO	Cond.		ORP
Total Volume Removed:	(gal)		Did well go dr	v: Yes	No		∀ 0.1	∀ 10%	∀ 3.0%	8 A	10 m\
	(3-7)										
Time:	1400	2 3	4 5	6	7	8	9	1	0	11	
Volume Purged (L)										1	_
Rate (mL/min)	_										
Depth to Water (ft.)	1-										
pH	8.26	Quan.			1,					-	
Temp. (C)	19.83			M	1						-01
Conductivity (mS/cm)	0.781			7"							
Dissolved Oxygen	9.50										
ORP (mV)	259.3										
Turbidity (NTU)	-5.16									-	
Notes:	3.0										
urge Water Description	n (Color? Odor? 1	Curbid? Other?)	Ana	lyses	# of Containe	ers Ar	nalyses			of ontai	ners
nitial Purge: CKAL	, No oper		TOCs (40 ml with	H <sub>2</sub> SO <sub>4</sub> )	4	All	lloride, Sulfa kalinity. 50 ml)	ate, &	2		
nitial Purge: CKAL	NO ODOE		TSS (I L Poly)		2	To	tal Metals 50 ml with H	INO <sub>2</sub> )	7		811
Vell Integrity Informati			PCBs (Total	ıl)	И	TD	KENT PRINTED AND PRINTED IN		7		
urface Seal Condition (co	oncrete pad, bolts,	manhole cover):	(Alliber)	IN/O	LUDE OVERA			WINT TO			
ocking Protective Well (	Cap/expansion plus			INC	LUDE OVERS	IGHT SP	LII IN AMC	UNI 101			
Vell Lock Present?	Lock Condition		Sample ID:	12-	1007	D		mple Time		00	
Other:			MS/MSD:	Yes	NO	Duplic	ale.	Yes	No		
	-		Duplicate II	D: TS3	1008		Dup	p. Time:	_	-	
OVERSIGHT SAMPLE	т):	TIME:	Sampled B	M	<	Log R	eviewed By		FV		
			All samples	submitted u	nder COC to T	AL of Sou	th Burlingto				SHALL

# **ARCADIS**

#### Attachment 4

Validation Packages



# Kalamazoo River Superfund Site Former Plainwell Impoundment Groundwater Sampling

#### **Data Review**

PLAINWELL, MICHIGAN

PCB, Metals and Miscellaneous Analyses

SDG# KAL459

Analyses Performed By: TestAmerica Laboratories Burlington, Vermont

Report: # 10202R Review Level: Tier III

Project: B0064539.0000.00500

#### SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #KAL459 for samples collected in association with the Plainwell site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

			Sample	Parent		A	nalysis		
Sample ID	Lab ID	Matrix	Collection Date	Sample	voc	svoc	PCB	MET	MISC
TS31000	792624	Ground Water	4/13/2009				Х	Х	Х
TS40000	792625	Ground Water	4/13/2009				Χ	Х	Х
TS40001	792626	Ground Water	4/13/2009				Χ	Х	Х
TS40002	792627	Ground Water	4/14/2009				Χ	Х	Х
TS40003	792628	Ground Water	4/14/2009	TS40002			Χ	Х	Х
TS40004	792629	Ground Water	4/14/2009				Χ	Х	Х
TS40005	792630	Ground Water	4/14/2009				Χ	Х	Х
TS40006	792631	Ground Water	4/14/2009				Χ	Х	Х
TS40007	792937	Ground Water	4/15/2009				Χ	Х	Х
TS40008	792938	Ground Water	4/15/2009				Χ	Х	Х
TS40009	792939	Ground Water	4/15/2009				Χ	Х	Χ
TS40010	792940	Ground Water	4/15/2009				Χ	Х	Х
TS40011	792941	Ground Water	4/15/2009				Х	Х	Х
TS40012	792942	Ground Water	4/16/2009				Х	Х	Х
TS40013	792943	Ground Water	4/16/2009				Х	Х	Х
TS40014	792944	Ground Water	4/16/2009				Χ	Х	Х
TS40015	792945	Ground Water	4/16/2009	TS40014			Χ	Х	Х
TS40016	792962	Ground Water	4/17/2009				Χ	Х	Х
TS31001	792963	Ground Water	4/17/2009				Χ	Х	Х
TS31002	792964	Ground Water	4/17/2009	TS31001			Х	Х	Х

#### Note:

- 1. Miscellaneous parameters include total organic carbon (TOC), total suspended solids (TSS), total dissolved solids (TDS), chloride, sulfate, and alkalinity.
- Matrix spike/matrix spike duplicate/laboratory duplicate was performed on sample locations TS31001 and TS40013.

#### **ANALYTICAL DATA PACKAGE DOCUMENTATION**

The table below is the evaluation of the data package completeness.

		Rep	orted		mance ptable	Not
	Items Reviewed	No	Yes	No	Yes	Required
1.	Sample receipt condition		Х		Х	
2.	Requested analyses and sample results		Х		Х	
3.	Master tracking list		Х		Х	
4.	Methods of analysis		Х		Х	
5.	Reporting limits		Х		Х	
6.	Sample collection date		Х		Х	
7.	Laboratory sample received date		Х		Х	
8.	Sample preservation verification (as applicable)		Х		Х	
9.	Sample preparation/extraction/analysis dates		Х		Х	
10.	Fully executed Chain-of-Custody (COC) form		Х		Х	
11.	Narrative summary of QA or sample problems provided		Х		Х	
12.	Data Package Completeness and Compliance		Х		Х	

QA - Quality Assurance

#### ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 8082. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999 and USEPA Region II (SOP HW-45, Revision 1).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - UB Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

The data presented in this package has been derived using a procedure developed by TestAmerica as an attempt to improve the analytical process of calibration, identification and quantitation of PCBs as Aroclors. Key components of this procedure include:

#### Calibration

The response function of the electron capture detector is inherently non-linear. While significant linearization is achieved for this detector by electronic means, some non-linearity remains. Power function linearization is used to straighten the curve and allow the use of response factors for calibration purposes.

During the initial calibration, a response factor is calculated for each peak in the individual Aroclors. A weighted response factor calculation has been used to adjust for non-linearity at the low end of the calibration curve.

#### Identification

Peak retention times are relative. Retention times are in set windows relative to the time markers DCB and TCX. Time markers adjust for minor variations in column flow or instrument condition and allow the use of very tight windows which minimizes the number of false positive and false negative peak identifications.

The determination of which Aroclor or mixture of Aroclors will produce a chromatogram most similar to that of the residue is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors. This is similar to the procedure presented by L.E. Silvon, P.M. Schumacher and A. Alford-Stevens for the determination of Aroclor composition from GC/MS level of chlorination results.

Identification/quantitation of Aroclors in samples is based on the combined response of two columns, typically RTX-5 and RTX-35. The pooling of response combines the unique qualities of both columns to derive a more defined Aroclor pattern which is less likely to be affected by interferents. Identification/quantitation data for the individual columns is provided in the package and can be used as a check on the combined column results.

#### POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

#### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8082	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
377-040 0002	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding time criteria.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

#### 3. System Performance

System performance and column resolution were acceptable.

#### 4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

#### 4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for all Aroclors.

#### 4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All calibration criteria were within the control limits.

#### 5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires the surrogate compounds must exhibited recoveries within the method established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Locations Surrogate	
TS40001	Tetrachloro-m-xylene	< LL but > 10%
TS40004	Decachlorobiphenyl	AC

Lower control limit (LL) Acceptable (AC)

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
> the upper control limit (OL)	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
< the lower control limit (EE) but > 10 %	Detect	J
< 10%	Non-detect	R
< 1076	Detect	٦
One surrogate exhibiting recovery outside the control limits	Non-detect	No Action
but > 10%	Detect	NO ACTION
Surrogates diluted below the calibration curve due to the	Non-detect	$J^1$
high concentration of a target compound.	Detect	J

A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

#### 6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the method established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the method established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

#### 7. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the method established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

#### 8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
TS40002/TS40003	All Aroclors	0.048 U	0.049 U	AC
TS40014/TS40015	All Aroclors	0.048 U	0.048 U	AC
TS31001/TS31002	Aroclor 1242	0.027 J	0.048 U	AC

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 9. Compound Identification

The determination of Aroclor presence is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors.

All identified compounds met the specified criteria.

#### 10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

### **DATA VALIDATION CHECKLIST FOR PCBs**

PCBs; SW846 8082	Rep	orted		rmance eptable	Not
	No	Yes	No	Yes	Required
GAS CHROMATOGRAPHY (GC/FID)					
Tier II Validation					
Holding times		Х		Х	
Reporting limits (units)		Х		Х	
Blanks					
A. Method blanks		Х		Х	
B. Field blanks		Х		Х	
Laboratory Control Sample (LCS) %R		Х		Х	
Laboratory Control Sample Duplicate(LCSD) %R					Х
LCS/LCSD Precision (RPD)					Х
Matrix Spike (MS) %R		Х		Х	
Matrix Spike Duplicate(MSD) %R		Х		Х	
MS/MSD Precision (RPD)		Х		Х	
Field Duplicate (RPD)		Х		Х	
Surrogate Spike Recoveries		Х	Х		
Dilution Factor		Х		Х	
Moisture Content		Х		Х	
Tier III Validation					
Initial calibration %RSDs		Х		Х	
Continuing calibration %Ds		Х		Х	
System performance and column resolution		Х		Х	
Compound identification and quantitation		1			1
A. Quantitation Reports		Х		Х	
B. RT of sample compounds within the established RT windows		Х		Х	
C. Pattern identification		Х		Х	
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X PPD role		X nt difference	

<sup>%</sup>RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

#### INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Methods 6010B, 9060, 300.0, 310.1 and SM2540. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
  - B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).
- Quantitation (Q) Qualifiers
  - E The reported value is estimated due to the presence of interference.
  - N Spiked sample recovery is not within control limits.
  - Duplicate analysis is not within control limits.
- Validation Qualifiers
  - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
  - UB Analyte considered non-detect at the listed value due to associated blank contamination.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

#### **METALS ANALYSES**

#### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
5W 6 16 66 16B	Soil	180 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the instrument detection limit (IDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the IDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

#### 3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

#### 3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

#### 3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard

analysis are presented below in the CRDL standards evaluation table.

All CRDL standard recoveries were within control limits.

#### 3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

#### 4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

#### 4.1 MS Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS analysis performed on sample locations TS40013 and TS31001 exhibited recoveries within the control limits.

#### 4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited RPD within the control limit.

#### 5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Calcium	110000	109000	0.9%
TS40002/TS40003	Magnesium	27300	27300	0%
1540002/1540003	Potsassium	1930	1760	AC
	Sodium	59700	59200	0.8%
TS40014/TS40015	Calcium	121000	129000	6.4%
1540014/1540015	Magnesium	36300	38600	6.1%

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Potsassium	3100	3220	AC
	Sodium	30000	31500	4.8%
	Calcium	75500	74300	1.6%
TS31001/TS31002	Magnesium	20600	20300	AC
1331001/1331002	Potsassium	2040	2050	AC
	Sodium	22400	22200	AC

AC Acceptable U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

#### 7. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution performed on sample locations TS40013 and TS31001 exhibited %D within the control limit.

#### 8. Furnace Analysis QC

No furnace analyses were performed on the samples.

#### 9. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

#### 10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

### **DATA VALIDATION CHECKLIST FOR METAL**

METALS; SW-846 6000/7000	Rep	orted	Performance Acceptable		Not	
·	No	Yes	No	Yes	Required	
Inductively Coupled Plasma-Atomic Emission Spe	ectrometry	(ICP)				
Atomic Absorption – Manual Cold Vapor (CV)						
Tier II Validation						
Holding Times		Х		Х		
Reporting limits (units)		Χ		Х		
Blanks						
A. Instrument Blanks		Х		Х		
B. Method Blanks		Χ		Х		
C. Equipment/Field Blanks		X		X		
Laboratory Control Sample (LCS)		Χ		X		
Matrix Spike (MS) %R		Χ		Х		
Matrix Spike Duplicate (MSD) %R		Χ		X		
MS/MSD Precision (RPD)		Χ		Х		
Field/Lab Duplicate (RPD)		Χ		X		
ICP Serial Dilution		X		X		
Reporting Limit Verification		Χ		X		
Raw Data		Х		X		
Tier III Validation						
Initial Calibration Verification		Х		Х		
Continuing Calibration Verification		Х		Х		
CRDL Standard		Х		Х		
ICP Interference Check		Х		Х		
Transcription/calculation errors present		Х		Х		
Reporting limits adjusted to reflect sample dilutions		Х		Х		

%R Percent recovery
RPD Relative percent difference

#### **GENERAL CHEMISTRY ANALYSES**

#### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Total Organic Carbon by EPA 9060	Water	28 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
Total Dissolved Solids By EPA 160.1	Water	7 days from collection to analysis	Cooled @ 4 °C.
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.
Chloride by EPA 300.0	Water	28 days from collection to analysis	Cooled @ 4 °C.
Sulfate by EPA 300.0	Water	28 days from collection to analysis	Cooled @ 4 °C.
Alkalinity by EPA 310.1	Water	14 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding time criteria.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL. No qualification of the sample results was required.

#### 3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within control limits.

All calibration standard recoveries were within the control limit.

#### 4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

#### 4.1 MS Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS analysis performed on sample locations TS40013 and TS31001 exhibited recoveries within the control limits.

#### 4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited a RPD within the control limit.

#### 5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
TS40002/TS40003	TOC	4.5	4.5	AC
	TDS	619	610	1.4%
	TSS	13.6	14.2	4.3%
	Chloride	100	98	2.0%
	Sulfate	64	66	3.0%
	Alkalinity	310	300	3.2%
	TOC	7.4	7.5	1.3%
TS40014/TS40015	TDS	667	691	3.5%
	TSS	15.4	14.5	6.0%

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Chloride	44	43	2.2%
	Sulfate	180	180	0%
	Alkalinity	320	310	3.1%
	TOC	7.1	7.5	5.4%
	TDS	371	370	0.2%
TS31001/TS31002	TSS	7.7	8	3.8%
1531001/1531002	Chloride	43	43	0%
	Sulfate	34	34	0%
	Alkalinity	210	210	0%

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

#### 7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

### DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: EPA Lloyd Kahn	Rep	orted		mance ptable	Not Required	
	No	Yes	No	Yes	Nequired	
Miscellaneous Instrumentation						
Tier II Validation						
Holding times		Х		Х		
Reporting limits (units)		Х		Х		
Blanks						
A. Method blanks		Х		Х		
B. Field blanks		Х		Х		
Laboratory Control Sample (LCS) %R		Х		Х		
Laboratory Control Sample Duplicate(LCSD) %R					Х	
LCS/LCSD Precision (RPD)					Х	
Matrix Spike (MS) %R		Х		Х		
Matrix Spike Duplicate(MSD) %R					Х	
MS/MSD Precision (RPD)					Х	
Lab/Field Duplicate (RPD)		Х		Х		
Dilution Factor		Х		Х		
Moisture Content		Х		Х		
Tier III Validation						
Initial calibration %RSD or correlation coefficient		Х		Х		
Continuing calibration %R		Х		Х		
Raw Data		Х		Х		
Transcription/calculation errors present				Х		
Reporting limits adjusted to reflect sample dilutions		X		X		

<sup>%</sup>RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference,

<sup>%</sup>D – difference

VALIDATION PERFORMED

BY: Jeffrey L. Davin

SIGNATURE:

DATE: May 20, 2009

PEER REVIEW: Dennis Capria

DATE: May 27, 2009

# CHAIN OF CUSTODY/ CORRECTED SAMPLE ANALYSIS DATA SHEETS

Lab Name:	TestAmerica Bur	lington	Lab Code:	STLV			
Contract:	27000	•	Case:	KZ00	SDG:	KAL459	
Phase Type:	WATER		La	b Sample ID:	792624		
Phase Weight:	1040.	(mL)	Da	ate Received:	04/15/09		
njection Volume:	1.0	(uL)	Da	te Extracted:	04/16/09	<del> </del>	
Dilution Factor:	1.0		Da	ate Analyzed:	05/05/09		
% Solids:			Sul	fur Clean-up:	N	(Y/N)	)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

EPA SAMPLE NO.

Sulfur Clean-up: N (Y/N)

				TS40000	
Lab Name: _	TestAmerica Bur	lington	Lab Code:STLV		
Contract:	27000		Case: KZOO	SDG: KAL459	
Phase Type:	WATER	***************************************	Lab Sample ID:	792625	
Phase Weight:	1020.	(mL)	Date Received:	04/15/09	
Injection Volume:	1.0	(uL)	Date Extracted:	04/16/09	
Dilution Factor:	1.0		Date Analyzed:	05/05/09	

% Solids:

CAS NO.	COMPOUND	CONCENTRATION	QUALIFIER
		ug/L	
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

1 -1 (141 ) AROCLOR ANALYSIS DATA SHEET

TS40001

						TS40001	
Lab Name: _	TestAmerica Bur	lington	Lab Code:	STLV			
Contract:	27000		Case:	KZ00	SDG:	KAL459	
Phase Type:	WATER	-	La	ab Sample ID:	792626		
Phase Weight:	1060.	(mL)	D	ate Received:	04/15/09		
njection Volume:	1.0	(uL)	Da	ate Extracted:	04/16/09		
Dilution Factor:	1.0		D	ate Analyzed:	05/05/09		
% Solids:		<del></del>	Su	lfur Clean-up:	N	(Y/	N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

Date Analyzed:

Sulfur Clean-up: N

EPA SAMPLE NO.

05/05/09

(Y/N)

						TS40002	
Lab Name: _	TestAmerica Burling	gton	_ Lab Code: _	STLV			
Contract:	27000	<del>_</del>	Case: _	KZ00	SDG:	KAL459	
Phase Type:	WATER		Lat	o Sample ID:	792627		
Phase Weight:	1040.	(mL)	Da	te Received:	04/15/09	l	
Injection Volume:	1.0	(uL)	Dat	te Extracted:	04/16/09	)	

Dilution Factor: 1.0

% Solids:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	Ų
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

#### LOWIN I AROCLOR ANALYSIS DATA SHEET

						TS40003	
Lab Name: .	TestAmerica Burl	ington	Lab Code:	STLV			
Contract:	27000	-	Case:	KZOO	SDG:	KAL459	
Phase Type:	WATER		La	ab Sample ID:	792628		
Phase Weight:	1020.	(mL)	D	ate Received: _	04/15/09		
njection Volume:	1.0	(uL)	Da	te Extracted:	04/16/09		
Dilution Factor:	1.0	-	D	ate Analyzed:	05/05/09		
% Solids:	***************************************		Sul	fur Clean-up:	N	(Y/N	)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

				TS40004	
Lab Name:	TestAmerica Burlingto	on	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG: KAL4	59
Phase Type:	WATER		Lab Sample ID:	792629	
Phase Weight:	1040.	(mL)	Date Received:	04/15/09	
Injection Volume:	1.0	(uL)	Date Extracted:	04/16/09	
Dilution Factor:	1.0		Date Analyzed:	05/05/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	υ
11096-82-5	Aroclor-1260	0.048	U

					Т	S40005
Lab Name: <sub>-</sub>	TestAmerica Burlingt	on	Lab Code:	STLV		
Contract:	27000		Case:	KZOO	SDG:	KAL459
Phase Type:	WATER		La	b Sample ID:	792630	
Phase Weight:	1010.	(mL)	Da	te Received:	04/15/09	
Injection Volume:	1.0	(uL)	Da	te Extracted:	04/16/09	
Dilution Factor:	1.0		Da	ite Analyzed:	05/05/09	
% Solids:			Sulf	fur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Lab Name:	TestAmerica Bui	dington	Lab Code: STLV	ר	rs40006
Lab Name	TOOD MITOTION DOI	migron	Lab Code:OTEV	<u>t</u>	
Contract:	27000		Case: KZOO	SDG:	KAL459
Phase Type:	WATER		Lab Comula ID.	792631	
riiase Type:	***************************************	<del></del>	Lab Sample ID:	792031	
Phase Weight:	1060.	(mL)	Date Received:	04/15/09	
Injection Volume:	1.0	(uL)	Date Extracted:	04/16/09	
Dilution Factor:	1.0		Date Analyzed:	05/05/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

EPA SAMPLE NO.

Sulfur Clean-up: N (Y/N)

				TS40007	
Lab Name: _	TestAmerica Bur	lington	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG: KAL459	
Phase Type:	WATER		Lab Sample ID:	792937	
Phase Weight:	1030.	(mL)	Date Received:	04/17/09	
Injection Volume:	1.0	(uL)	Date Extracted: _	04/20/09	
Dilution Factor:	1.0		Date Analyzed:	05/05/09	

% Solids: \_\_\_\_\_

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

EPA SAMPLE NO.

(Y/N)

05/05/09

Date Analyzed:

Sulfur Clean-up: N

				TS40008	
Lab Name: _	TestAmerica Burli	ngton	Lab Code: STLV		
Contract:	27000	<del></del>	Case: KZOO	SDG: KAL459	
Phase Type:	WATER	·	Lab Sample ID:	792938	
Phase Weight:	1060.	(mL)	Date Received:	04/17/09	
Injection Volume:	1.0	(uL)	Date Extracted:	04/20/09	

Dilution Factor: 1.0

% Solids:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

Lab Name:	TestAmerica Bur	lington	Lab Code: STLV	TS40009	
Contract:	27000		Case: KZOO	SDG: KAL45	59
Phase Type:	WATER		Lab Sample ID:	792939	
Phase Weight:	1030.	(mL)	Date Received:	04/17/09	
Injection Volume:	1.0	(uL)	Date Extracted:	04/20/09	
Dilution Factor:	1.0		Date Analyzed:	05/05/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

EPA SAMPLE NO.

Sulfur Clean-up: N (Y/N)

						TS40010	
Lab Name: _	TestAmerica Bur	lington	Lab Code: _	STLV			
Contract:	27000	<u></u>	Case: _	KZOO	SDG:	KAL459	
Phase Type:	WATER		Lat	Sample ID:	792940		
Phase Weight:	1040.	(mL)	Da	te Received:	04/17/09	)	
Injection Volume:	1.0	(uL)	Dat	e Extracted:	04/20/09	)	
Dilution Factor:	1.0		Da	te Analyzed:	05/05/09	)	

% Solids:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

						TS40011	
Lab Name: _	TestAmerica Burlin	gton	_ Lab Code: ,	STLV			
Contract:	27000		Case: _	KZOO	SDG:	KAL459	
Phase Type:	WATER		La	b Sample ID:	792941		
Phase Weight:	1030.	(mL)	Da	te Received:	04/17/09	)	
Injection Volume:	1.0	(uL)	Da	te Extracted:	04/20/09	)	
Dilution Factor:	1.0	<del></del>	Da	te Analyzed:	05/05/09	)	
% Solide:			Sulf	ur Clean-un	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION	QUALIFIER
		ug/L	
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

					'	TS40012	
Lab Name:	TestAmerica Burl	ington	Lab Code:	STLV			
Contract:	27000		Case:	KZOO	SDG:	KAL459	<u>-</u>
Phase Type:	WATER	<del></del>	La	ab Sample ID:	792942		
Phase Weight:	1040.	(mL)	D	ate Received:	04/17/09		
njection Volume:	1.0	(uL)	Da	ate Extracted:	04/20/09		
Dilution Factor:	1.0		D	ate Analyzed:	05/05/09		
% Solids:		POST-MANAGEMENT	Sul	fur Clean-up: _	N	(Y	/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER	
12674-11-2	Aroclor-1016	0.048	U	
11104-28-2	Aroclor-1221	0.048	U	
11141-16-5	Aroclor-1232	0.048	U	
53469-21-9	Aroclor-1242	0.048	U	
12672-29-6	Aroclor-1248	0.048	U	
11097-69-1	Aroclor-1254	0.048	U	
11096-82-5	Aroclor-1260	0.048	U	

Lab Name: _	TestAmerica Bur	lington	Lab Code: STLV	Т	S40013
Contract:	27000		Case: KZOO	SDG:	KAL459
Phase Type:	WATER	-	Lab Sample ID:	792943	
Phase Weight:	1055.	(mL)	Date Received:	04/17/09	
Injection Volume:	1.0	(uL)	Date Extracted:	04/20/09	
Dilution Factor:	1.0	-	Date Analyzed:	05/05/09	
% Solids:		-	Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER	
12674-11-2	Aroclor-1016	0.047	U	
11104-28-2	Aroclor-1221	0.047	U	
11141-16-5	Aroclor-1232	0.047	U	
53469-21-9	Aroclor-1242	0.047	U	
12672-29-6	Aroclor-1248	0.047	U	
11097-69-1	Aroclor-1254	0.047	U	
11096-82-5	Aroclor-1260	0.047	U	

Lab Name:	TestAmerica Burlin	aton	Lab Code:	STLV		TS40014	7,77
Contract:	27000	gion	Case:	KZOO	SDG:	KAL459	
Phase Type:	WATER		- La	b Sample ID:	792944		·- · · · · · · · · · · · · · · · · · ·
Phase Weight:	1040.	(mL)	Da	ite Received:	04/17/09		
Injection Volume:	1.0	(uL)	Da	te Extracted:	04/20/09		
Dilution Factor:	1.0	-	Da	nte Analyzed:	05/05/09		
% Solids:			Sulf	fur Clean-un:	N		Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

Lab Name:	TestAmerica Burlir	ngton	Lab Code: STLV	TS40	0015
Contract:	27000		Case: KZOO	SDG: K	AL459
Phase Type:	WATER	· amalan	Lab Sample ID:	792945	
Phase Weight:	1035.	(mL)	Date Received: _	04/17/09	
Injection Volume:	1.0	(uL)	Date Extracted:	04/20/09	
Dilution Factor:	1.0		Date Analyzed:	05/05/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	Ų
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

1.1.0	TestAmerica Burlir	anton	STIM	Т	<sup>-</sup> S40016	
Lab Name: _	restamenta bunii	igion	Lab Code:STLV			لــ
Contract:	27000		Case: KZOO	SDG:	KAL459	
D	MATER			700000		
Phase Type:	WATER		Lab Sample ID: _	792962		
Phase Weight:	1040.	(mL)	Date Received: _	04/18/09		
Injection Volume:	1.0	(uL)	Date Extracted:	04/20/09		
Dilution Factor:	1.0	MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MACAGARA MA	Date Analyzed: _	05/05/09		
% Solids:			Sulfur Clean-un	N	(Y/N)	

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

Lab Name:	_ TestAmerica Burlingt	on	Lab Code:	STLV	Т	S31001
Contract:	27000		Case:	KZOO	SDG:	KAL459
Phase Type:	WATER		La	b Sample ID:	792963	
Phase Weight:	1045.	(mL)	Da	ate Received:	04/18/09	
Injection Volume:	1.0	(uL)	Date Extracted:		04/20/09	
Dilution Factor:	1.0		Da	ate Analyzed:	05/05/09	<u> </u>
% Solids:			Sul	fur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.027	J
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

					T	S31002	
Lab Name: _	TestAmerica Burlingt	on	Lab Code: _	STLV			
Contract:	27000		Case:	KZOO	SDG:	KAL459	
Phase Type:	WATER		Lab	Sample ID:	792964		
Phase Weight:	1040.	(mL)	Dat	te Received:	04/18/09		
Injection Volume:	1.0	(uL)	Dat	e Extracted:	04/20/09		
Dilution Factor:	1.0		Dat	te Analyzed:	05/05/09	····	
% Solids:		_	Sulf	ur Clean-up:	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Average 404C		
11104-28-2	Aroclor-1016 Aroclor-1221	0.048	U
11141-16-5	Aroclor-1221	0.048	<u> </u>
53469-21-9	Aroclor-1232	0.048	U
12672-29-6	Aroclor-1248	0.048	
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

### **USEPA-CLP FORMS**

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### INORGANIC ANALYSES DATA SHEET

2090 B

EPA SAMPLE NO.

TS31000	)	

Lab Name: <u>T</u>	estAmer:	ica Burlington	Contrac	:t: <u>29000</u>				
Lab Code: S	STLV	Case No.:	KZOO SAS	No.:		SDG No	.: <u>K</u>	L459
Matrix (soil/	water):	WATER		Lab Sample ID:		792624	Į	
Level (low/me	ed):	LOW		Date Received:		04/15/	′09	
% Solids: 0	0.0							
		Concentration U	nits (ug/L or mg/	kg dry weight):		UG/L		
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	73300			P	
		7439-95-4	Magnesium	19600			P	
		7440-23-5	Sodium	20400	1		P	

Potassium

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	No.
Comments:					
-					

## USEPA-CLP FORMS -1-

### INORGANIC ANALYSES DATA SHEET

								EPA SAMPLE NO.
								TS31001
Lab Name:	TestAmer	ica Burlington	Contra	act: <u>29000</u>				
Lab Code:	STLV	Case No.:	KZOO SA	S No.:		SDG N	0.:	KAL459
Matrix (soi]	L/water):	WATER		Lab Sample ID	:	79296	3	
Level (low/n	med):	LOW		Date Received	:	04/18	3/09	
% Solids:	0.0							-
		•						
		Concentration U	nits (ug/L or mo	g/kg dry weight):		UG/I	1	
								_
		CAS No.	Analyte	Concentration	С	Q	М	]
		7440-70-2	Calcium	75500	-		l P	<u> </u>   
		1 1 4 4 0 7 0 E	1					
		7439-95-4	Magnesium	20600	<u>.                                      </u>	<u>                                     </u>	P	<u>-</u> ' 
							<del></del>	
		7439-95-4	Magnesium	20600	      B		P	-    -  -  -  -

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
_				
-			····	
-				

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

							TS31002
Lab Name: <u>TestAme</u>	rica Burlington	Contrac	et: <u>29000</u>		<u> </u>	········	
Lab Code: STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL459
Matrix (soil/water)	WATER		Lab Sample ID:		79296	4	
Level (low/med):	LOW		Date Received:		04/18	/09	
% Solids: 0.0							
	Concentration Un	uits (ug/L or mg/	/kg dry weight):		UG/L		_
	CAS No.	Analyte	Concentration	С	Q	М	

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	74300			P
7439-95-4	Magnesium	20300			P
7440-23-5	Sodium	22200	Ī		P
7440-09-7	Potassium	2050	В		P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TS40000	

Lab Name: <u>TestAmerica Burlington</u>	Contract: 29000	<u> </u>
Lab Code: STLV Case No.: KZOO	SAS No.:	SDG No.: KAL459
Matrix (soil/water): WATER	Lab Sample ID:	792625
Level (low/med): LOW	Date Received:	04/15/09

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	152000	1		P
7439-95-4	Magnesium	27700	Ī		l P
7440-23-5	Sodium	11600	1		P
7440-09-7	Potassium	3450	В		P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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### INORGANIC ANALYSES DATA SHEET

								EPA SAMPLE NO.
								TS40001
Lab Name:	TestAmer	rica Burlington	Contra	act: 29000				
Lab Code:	STLV	_ Case No.:	KZOO SAS	S No.:		SDG No	· . :	KAL459
Matrix (soil	./water):	WATER		Lab Sample ID:	:	79262	6	
Level (low/m	ned):	LOW		Date Received:	:	04/15	/09	
% Solids:	0.0							
		<del></del>						
		Concentration U	nits (ug/L or mg	/kg dry weight):		UG/L		
								<del></del>
		CAS No.	Analyte	Concentration	С	Q	м	]
		7440-70-2	Calcium	111000			P	1
		7439-95-4	Magnesium	23800	T		P	
		7440-23-5	Sodium	27000	Ì	1	P	i
		7440-09-7	Potassium	699	B	<u>.</u>	P	i

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO. TS40002

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Lab Name:	TestAmer	ica Burlington	Contr	act: 29000				<del> </del>
Lab Code:	STLV	Case No.:	KZOO SZ	AS No.:		SDG No	.:	KAL459
Matrix (soi	.l/water):	WATER	***************************************	Lab Sample ID:		79262	7	
Level (low/	med):	LOW		Date Received:		04/15,	/09	
% Solids:	0.0	_						
		Concentration U	nits (ug/L or m	g/kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	110000	+		P	i 

27300

59700

1930

B

Magnesium

Potassium

 ${\tt Sodium}$ 

7439-95-4

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
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#### INORGANIC ANALYSES DATA SHEET

27300

59200

1760

EPA SAMPLE NO.

P

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P

TS40003	
1340003	

Lab Name:	TestAmer	ica Burlington	Cont	ract: 29000				
Lab Code:	STLV	Case No.:	KZOO S	SAS No.:		SDG No	.:	KAL459
Matrix (soi	l/water):	WATER		Lab Sample ID:		792628	3	
Level (low/	med):	LOW		Date Received:		04/15/	/09	
% Solids:	0.0	_						
		Concentration Ur	its (ug/L or	mg/kg dry weight):		UG/L		<del></del>
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	109000			P	<u>'</u>

Magnesium

Potassium

Sodium

7439-95-4

7440-23-5

7440-09-7

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: $\underline{\mathtt{T}}$	estAmerica 1	Burlington	Con	tract:	29000	<u> </u>		
Lab Code: <u>S</u>	TLV	Case No.:	KZ00	SAS No.:		SDG No.	: <u>KAL459</u>	
Matrix (soil/	water): W	ATER	· · · · · · · · · · · · · · · · · · ·	Lab	Sample ID:	792629		
Level (low/med	d): <u>LOW</u>			Dat	e Received:	04/15/0	09	
% Solids: <u>0</u>	. 0							
	Conce	entration Uni	ts (ug/L or	mg/kg dr	y weight):	UG/L		
			31				<del></del> 1	

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	92200			P
7439-95-4	Magnesium	21700	1		P
7440-23-5	Sodium	69500			P
7440-09-7	Potassium	1600	В		P

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				

#### INORGANIC ANALYSES DATA SHEET

29500

51100

1120 B

P

P

EPA SAMPLE NO.

		110	•
***************************************			
	TS40005		

Lab Name:	TestAmer:	ica Burlington	Cont	ract: 2	9000					
Lab Code:	STLV	Case No.:	KZOO S	SAS No.:		_	SDG No	.:	KAL459	
Matrix (soil	./water):	WATER		Lab S	Sample ID:		792630	)		
Level (low/m	ned):	LOW		Date	Received:		04/15	/09	·	
% Solids:	0.0									
		Concentration Un	nits (ug/L or	mg/kg dry	weight):		UG/L	····	<b></b>	
		CAS No.	Analyte	Concen	tration	С	Q	М		
		7440-70-2	Calcium		198000			P		

Magnesium

Potassium

Sodium

7439-95-4

7440-23-5

7440-09-7

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TS400	06

Lab Name:	TestAmer	ica Burlington		Contract:	29000		M
Lab Code:	STLV	Case No.:	KZ00	SAS No.:		SDG No.:	KAL459
Matrix (soil	/water):	WATER	*	La	Sample ID:	792631	
Level (low/m	ed):	LOW		Da	te Received:	04/15/09	
% Solids:	0.0						
		Concentration Un	its (ug/L	or mg/kg d	ry weight):	UG/L	_

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	92200			P
7439-95-4	Magnesium	25700			P
7440-23-5	Sodium	42100			P
7440-09-7	Potassium	1540	В	***************************************	P

Color Before:	colorless	Clarity Before:	clear	Texture:	711
Color After:	colorless	Clarity After:	clear	Artifacts:	-
Comments:					
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#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

								TS40007
Lab Name:	TestAmer	ica Burlington	Contrac	et: <u>29000</u>				
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL459
Matrix (soi	l/water):	WATER		Lab Sample ID:		79293	7	
Level (low/	med):	LOW		Date Received:		04/17	/09	
% Solids:	0.0	_						
		Concentration Un	its (ug/L or mg/	kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	115000			P
7439-95-4	Magnesium	27700	1		P
7440-23-5	Sodium	73400	İ		P
7440-09-7	Potassium	2120	В	·	P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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## INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

								TS40008
Lab Name:		rica Burlingt		tract: 29000				
Lab Code:	STLV	Case No.	: KZ00	SAS No.:		SDG No	· . :	KAL459
Matrix (soi	.1/water):	WATER		Lab Sample ID	:	79293	8	
Level (low/	med):	LOW		Date Received	:	04/17	/09	·
% Solids:	0.0							
		Concontration	IIIni ha (ana/I ana					
		concentration	Onits (ug/L or	mg/kg dry weight):		UG/L		
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	141000	$\dagger$		P	
		7439-95-4	Magnesium	32100			P	
		7440-23-5	Sodium	53800			P	
		7440-09-7	Potassium	2810	В		P	
Color Bef	ore: <u>col</u>	orless	Clarity Before:	clear	Te	exture:	_	

Comments:

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TS40009

					l		201000
Lab Name: TestAmer	rica Burlingtor	Contra	ct: <u>29000</u>				
Lab Code: STLV	Case No.:	KZOO SAS	5 No.:	_	SDG No	o.:	KAL459
Matrix (soil/water):	WATER		Lab Sample ID:		79293	9	
Level (low/med):	LOW		Date Received:		04/17	/09	
% Solids: 0.0							
	Concentration (	Jnits (ug/L or mg	/kg dry weight):		UG/L	1	_
	CAS No.	Analyte	Concentration	С	Q	М	
	7440-70-2	Calcium	105000			P	
	7439-95-4	Magnesium	27100			P	
	7440-23-5	Sodium	80300			P	

Potassium

7440-09-7

2100 B

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

#### INORGANIC ANALYSES DATA SHEET

74900

1880 B

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EPA SAMPLE NO. TS40010

									TS40010
Lab Name:	TestAmer	rica Burlington	Cont	tract:	29000				
Lab Code:	STLV	Case No.:	KZOO	SAS No.:	-	<del></del>	SDG N	o.:	KAL459
Matrix (soil,	/water):	WATER		Lab	Sample ID:	:	79294	10	
Level (low/me	ed):	LOW		Date	Received:	:	04/17	7/09	
% Solids: (	0.0								
		Concentration U	nits (ug/L or	mg/kg dry	weight):		UG/I		_
		CAS No.	Analyte	Concer	ntration	С	Q	М	
		7440-70-2	Calcium		121000			l P	 
		7439-95-4	Magnesium		29500	<del>i i</del>		l p	

Sodium

Potassium

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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#### INORGANIC ANALYSES DATA SHEET

			inologinge And	TO ANALISES DATA SHEET			EPA SAMPLE NO.		
								TS40011	
Lab Name:	TestAmer	rica Burlington	Contra	ct: 29000					
Lab Code:	STLV	_ Case No.:	KZOO SAS	No.:		SDG No	o.:	KAL459	
Matrix (so	il/water):	WATER	***************************************	Lab Sample ID:	:	79294	1		
Level (low,	/med):	LOW		Date Received:	04/17	/09			
% Solids:	0.0	<b>_</b>							
		Concentration Un	nits (ug/L or mg	/kg dry weight):		UG/L		_	
		CAS No.	Analyte	Concentration	С	Q	М		
		7440-70-2	Calcium	174000			P	1	
		7439-95-4	Magnesium	28300	İ		P		
		7440-23-5	Sodium	55200			P		
		7440-09-7	Potassium	2000	В		P		

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:		17.110.110.110.110.110.110.110.110.110.1			
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#### INORGANIC ANALYSES DATA SHEET

142000

29300

53000

1700 B

EPA SAMPLE NO.

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TS	3400	12	

Lab Name:	TestAmer	ica Burlington	Contrac	t: 29000		<u> </u>		
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL459
Matrix (soil	L/water):	WATER		Lab Sample ID:		792942	2	······
Level (low/m	ned):	LOW		Date Received:		04/17/	/09	
% Solids:	0.0	-						
		Concentration Un	its (ug/L or mg/	kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	

Calcium

Sodium

Magnesium

Potassium

7440-70-2

7439-95-4

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
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#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

<u> </u>		 OFMER THE	140.	
TS40013	_	 TS40013		

				TS40013
Lab Name:	TestAmeric	ca Burlington	Contract: <u>29000</u>	
Lab Code:	STLV	Case No.: KZOO	SAS No.:	SDG No.: KAL459
Matrix (soil	L/water):	WATER	Lab Sample ID:	792943
Level (low/m	$\mathtt{ned}$ ): $\underline{\mathtt{L}}$	OW	Date Received:	04/17/09
% Solids:	0.0			
	C	oncentration Units (ug/L	or mg/kg dry weight):	UG/L

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	119000			P
7439-95-4	Magnesium	27800			P
7440-23-5	Sodium	68400			P
7440-09-7	Potassium	1940	[B		P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	-
Comments:			7.473		

## INORGANIC ANALYSES DATA SHEET

	LPA	SAMPLE	NO.
		TS40014	
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								1340014
Lab Name: Te	<u>estAmerica</u>	Burlingtor	1	Contract:	29000			
Lab Code: S	TLV	Case No.:	KZOO	SAS No	.:	s	DG No.:	KAL459
Matrix (soil/v	water):	WATER		נ	ab Sample	: ID: 7	92944	
Level (low/med	d): <u>LO</u> I	<u> </u>		I	ate Recei	.ved: C	4/17/09	
% Solids: 0	. 0							
	Cor	centration U	nits (ug/I	or mg/kg	dry weigh	ıt):	UG/L	-
						<del></del>		

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	121000			P
7439-95-4	Magnesium	36300			P
7440-23-5	Sodium	30000	ÌТ		P
7440-09-7	Potassium	3100	B		P

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:			71	
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#### INORGANIC ANALYSES DATA SHEET

38600

31500

3220 B

EPA SAMPLE NO.

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TS40015	
1240012	

							1340013
Lab Name: TestAmer	rica Burlington	Contrac	t: <u>29000</u>		··············		
Lab Code: STLV	_ Case No.:	KZOO SAS	No.:		SDG No	.:	KAL459
Matrix (soil/water):	WATER		Lab Sample ID:		792945	5	
Level (low/med):	LOW		Date Received:		04/17/	/09	
% Solids: 0.0	_						
	Concentration Un	uits (ug/L or mg/	kg dry weight):		UG/L		_
	CAS No.	Analyte	Concentration	С	Q	М	
	7440-70-2	Calcium	129000			₽	

Magnesium

Potassium

Sodium

7439-95-4

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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#### INORGANIC ANALYSES DATA SHEET

							-	EPA SAMPLE NO.
								TS40016
Lab Name:	TestAmer	cica Burlington	Contra	act: 29000				
Lab Code:	STLV	_ Case No.:	KZOO SA	.S No.:		SDG No	· . :	KAL459
Matrix (soil	l/water):	WATER		Lab Sample ID:	:	79296	2	
Level (low/n	med):	LOW		Date Received:	:	04/18	/09	
% Solids:	0.0							
, borras.	0.0	<del></del>						
		Concentration II	nite (we/I on m	g/kg dry weight):		TTC /T		
		Concentration of	nics (ag/i or m	g/kg dry werght):		UG/L		
					Т	Т	1	7
		CAS No.	Analyte	Concentration	C	Q	М	
		7440-70-2	Calcium	92100	+	<del> </del>	P	<u>.</u>
		1440-70-2	1				-	
		7439-95-4	Magnesium	24600	Ī		P	
			<u> </u>	<del>~</del>			<del></del>	
		7439-95-4	Magnesium	24600	    B	<u> </u>   	P	-    -  -  -

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
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### **Sample Report Summary**

Client Sample No.

TS31000

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792624

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	361	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	7.6	
5310	Organic Carbon, Total	04/17/09	BLKTO041709A	mg/L	1	1.0	7.9	
		ļ						

#### Sample Report Summary

Client Sample No.

TS40000

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792625

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	657	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	0.6	!
5310	Organic Carbon, Total	04/22/09	BLKT0042209B	mg/L	1	1.0	20.6	
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#### Sample Report Summary

Client Sample No.

TS40001

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792626

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

	Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
	2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	553	
	2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	17.0	
	5310	Organic Carbon, Total	04/17/09	BLKTO041709A	mg/L	1	1.0	5.2	
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#### **Sample Report Summary**

Client Sample No.
TS40002

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792627

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

	Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
ľ	2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	619	
	2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	13.6	
	5310	Organic Carbon, Total	04/17/09	BLKT0041709A	mg/L	1	1.0	4.5	
							i		
							i		
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#### Sample Report Summary

Client Sample No.

TS40003

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792628

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	610	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	14.2	
5310	Organic Carbon, Total	04/17/09	BLKT0041709A	mg/L	1	1.0	4.5	
		3						
							Annual Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the	
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### **Sample Report Summary**

Client Sample No.

TS40004

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792629

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

Mathad	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
Method	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	568	
2540								
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	13.3	
5310	Organic Carbon, Total	04/17/09	BLKTO041709A	mg/L	1	1.0	2.5	
		}						
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#### **Sample Report Summary**

Client Sample No.

TS40005

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792630

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	918	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	25.4	
5310	Organic Carbon, Total	04/22/09	BLKTO042209B	mg/L	1	1.0	16.2	
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#### **Sample Report Summary**

Client Sample No.

TS40006

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792631

Matrix: WATER

Client: BBLKAL

Date Received: 04/15/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	495	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	10.1	
5310	Organic Carbon, Total	04/17/09	BLKTO041709A	mg/L	1	1.0	3.1	
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#### Sample Report Summary

Client Sample No.

TS40007

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792937

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	655	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	11.7	
5310	Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	4.8	
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### **Sample Report Summary**

Client Sample No.

TS40008

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792938

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	746	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	8.9	
5310	Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	6.7	
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### **Sample Report Summary**

Client Sample No.

TS40009

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792939

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	625	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	9.1	
5310	Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	2.6	
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### **Sample Report Summary**

Client Sample No.

TS40010

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792940

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	665	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	21.3	
5310	Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	3.7	
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#### Sample Report Summary

Client Sample No.

TS40011

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792941

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	777	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	12.9	
5310	Organic Carbon, Total	04/22/09	BLKT0042209A	mg/L	1	1.0	6.9	
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### Sample Report Summary

Client Sample No.

TS40012

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792942

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	706	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	20.1	
5310	Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	6.1	
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### Sample Report Summary

Client Sample No.

TS40013

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792943

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	639	
Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	16.4	
Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	4.6	
		144					i.
	Total Dissolved Solids  Total Suspended Solids	Total Dissolved Solids 04/20/09  Total Suspended Solids 04/20/09	Total Dissolved Solids         04/20/09         BLKDS042009A           Total Suspended Solids         04/20/09         BLKTS042009A	Total Dissolved Solids         04/20/09         BLKDS042009A         mg/L           Total Suspended Solids         04/20/09         BLKTS042009A         mg/L	Total Dissolved Solids         04/20/09         BLKDS042009A         mg/L         1           Total Suspended Solids         04/20/09         BLKTS042009A         mg/L         0	Total Dissolved Solids         04/20/09         BLKDS042009A         mg/L         1         5.0           Total Suspended Solids         04/20/09         BLKTS042009A         mg/L         0         0.50	Total Dissolved Solids         04/20/09         BLKDS042009A         mg/L         1         5.0         639           Total Suspended Solids         04/20/09         BLKTS042009A         mg/L         0         0.50         16.4

### **Sample Report Summary**

Client Sample No.

TS40014

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792944

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	667	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	15.4	
5310	Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	7.4	
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#### **Sample Report Summary**

Client Sample No.

TS40015

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792945

Matrix: WATER

Client: BBLKAL

Date Received: 04/17/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	691	
2540	Total Suspended Solids	04/20/09	BLKT\$042009A	mg/L	0	0.50	14.5	
5310	Organic Carbon, Total	04/22/09	BLKTO042209A	mg/L	1	1.0	7.5	
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#### **Sample Report Summary**

Client Sample No.
TS40016

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792962

Matrix: WATER

Client: BBLKAL

Date Received: 04/18/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	574	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	6.6	
5310	Organic Carbon, Total	04/22/09	BLKTO042209B	mg/L	1	1.0	2.0	
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# **WET CHEMISTRY**

# Sample Report Summary

Client Sample No.

TS31001

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792963

Matrix: WATER

Client: BBLKAL

Date Received: 04/18/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	371	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.50	7.7	
5310	Organic Carbon, Total	04/22/09	BLKTO042209B	mg/L	1	1.0	7.1	
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# **WET CHEMISTRY**

# Sample Report Summary

Client Sample No.

TS31002

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL459

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 792964

Matrix: WATER

Client: BBLKAL

Date Received: 04/18/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	04/20/09	BLKDS042009A	mg/L	1	5.0	370	
2540	Total Suspended Solids	04/20/09	BLKTS042009A	mg/L	0	0.60	8.0	
5310	Organic Carbon, Total	04/22/09	BLKTO042209B	mg/L	1	1.0	7.5	
				i	!			

Printed on: 05/11/09 11:44 AM

# Analytical Data

Client: TestAmerica Laboratories, Inc.

Job Number: 500-18371-1

	•		General Che	emistry				
Client Sample ID	: TS31000		General Give	ou y				
Lab Sample ID: Client Matrix:	500-18371-1 Water						Sampled: 04/13/2009 142 Received: 04/21/2009 101	
Analyte		Result	Qual Units	MDL		RL	Dil Method	
Sulfate		32	mg/L	0.53		2.0	10 300.0	_
	Anly Batch:	500-62399	Date Analyzed	04/24/2009	1104			
Chloride		39	mg/L	0.16		2.0	10 300.0	
	Anly Batch:		Date Analyzed	04/24/2009	1104			
Alkalinity		200	mg/L	1.1		5.0	1.0 310.1	
•	Anly Batch:	500-62347	Date Analyzed	04/24/2009	0750			
Client Sample ID	: TS40000							
Lab Sample ID: Client Matrix:	500-18371-2 Water						Sampled: 04/13/2009 160 Received: 04/21/2009 101	
Analyte		Result	Qual Units	MDL		RL	Dil Method	
Chloride		28	mg/L	0.16		2.0	10 300.0	
	Anly Batch:	500-62399	Date Analyzed	04/24/2009	1118			
Sulfate		130	mg/L	1.1		4.0	20 300.0	
	Anly Batch:	500-62708	Date Analyzed	04/29/2009	1222			
Alkalinity		320	mg/L	1.1		5.0	1.0 310.1	
•	Anly Batch:	500-62347	Date Analyzed	04/24/2009	0758			
Client Sample ID	: TS40001			. <del>-</del>				
Lab Sample ID: Client Matrix:	500-18371-3 Water						e Sampled: 04/13/2009 16 <sup>-</sup> e Received: 04/21/2009 10 <sup>-</sup>	
Analyte		Result	Qual Units	MDL		RL	Dil Method	
Chloride	-	42	mg/L	0.16		2.0	10 300.0	
	Anly Batch:	500-62399	Date Analyzed	04/24/2009	1132			
Sulfate		150	mg/L	1.1		4.0	20 300.0	
	Anly Batch:	500-62708	Date Analyzed	04/29/2009	1236			
Alkalinity		210	mg/L	1.1		5.0	1.0 310.1	
	Anly Batch:	500-62347	Date Analyzed	04/24/2009	0805			

TestAmerica Laboratories, Inc.

Job Number:

500-18371-1

General	Chemistry
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Client Sample ID: TS40002

Lab Sample ID:

500-18371-4

Client Matrix:

Water

Date Sampled: 04/14/2009

1055

Date Received: 04/21/2009

1010

Analyte	Result	Qual Units	MDL	RL	Dil	Method
Sulfate	64	mg/L	0.53	2.0	10	300.0
	Anly Batch: 500-62399	Date Analyzed	04/24/2009	1147		
Chloride	100	mg/L	0.32	4.0	20	300.0
	Anly Batch: 500-62708	Date Analyzed	04/29/2009	1250		
Alkalinity	310	mg/L	1.1	5.0	1.0	310.1
·	Anly Batch: 500-62347	Date Analyzed	04/24/2009	0814		

Client Sample ID: TS40003

Lab Sample ID:

500-18371-5

Client Matrix:

Water

Date Sampled: 04/14/2009

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Date Received: 04/21/2009

1010

Analyte	Result	Qual Units MDL	RL	Dil Method	
Sulfate	66	mg/L 0.53	2.0	10 300.0	
	Anly Batch: 500-62399	Date Analyzed 04/24/2009	1201		
Chloride	98	mg/L 0.32	4.0	20 300.0	
,	Anly Batch: 500-62708	Date Analyzed 04/29/2009	1305		
Alkalinity	300	mg/L 1.1	5.0	1.0 310.1	
·	Anly Batch: 500-62347	Date Analyzed 04/24/2009	0821		

Client Sample ID: TS40004

500-18371-6

Lab Sample ID: Client Matrix:

Water

Date Sampled: 04/14/2009

1200

Date Received: 04/21/2009

1010

Dil Method RL Qual Units MDL Analyte Result 29 mg/L 0.53 2.0 10 300.0 Sulfate Anly Batch: 500-62399 Date Analyzed 04/24/2009 1215 0.32 4.0 20 300.0 120 mg/L Chloride Date Analyzed 04/29/2009 1347 Anly Batch: 500-62708 1.0 310.1 280 mg/L 1.1 5.0 Alkalinity Anly Batch: 500-62347 Date Analyzed 04/24/2009 0828

TestAmerica Laboratories, Inc.

Job Number:

500-18371-1

Canaral	Chemistry

Client Sample ID: TS40005

Lab Sample ID: 500-18371-7 Client Matrix:

Water

Date Sampled: 04/14/2009 1350

Date Received: 04/21/2009 1010

Analyte		Result	Qual	Units	MDL		RL	Dil	Method
Sulfate		160		mg/L	1.1		4.0	20	300.0
	Anly Batch:	500-62708	Date Ar	nalyzed	04/29/2009	1401			
Chloride		89		mg/L	0.32		4.0	20	300.0
	Anly Batch:	500-62708	Date Ar	nalyzed	04/29/2009	1401			
Alkalinity		420		mg/L	1.1		5.0	1.0	310.1
	Anly Batch:	500-62347	Date Ar	nalyzed	04/24/2009	0837			

Client Sample ID: TS40006

Lab Sample ID: 500-18371-8 Client Matrix:

Water

Date Sampled: 04/14/2009 1420

Date Received: 04/21/2009 1010

Analyte		Result	Qual U	nits MDL	RL	Dil	Method
Sulfate		63	m	ng/L 0.53	2.0	10	300.0
	Anly Batch:	500-62399	Date Analy	zed 04/24/2009	1244		
Chloride		43	m	ng/L 0.16	2.0	10	300.0
	Anly Batch:	500-62399	Date Analy	zed 04/24/2009	1244		
Alkalinity		280	m	ng/L 1.1	5.0	1.0	310.1
	Anly Batch:	500-62347	Date Analy	zed 04/24/2009	0845		

Client Sample ID: TS40007

Lab Sample ID: 500-18371-9 Client Matrix:

Water

Date Sampled: 04/15/2009 Date Received: 04/21/2009 1010

1030

Analyte		Result	Qual	Units	MDL		RL	Dil	Method
Sulfate		43		mg/L	0.53		2.0	10	300.0
	Anly Batch:	500-62399	Date An	nalyzed	04/24/2009	1606			
Chloride		130		mg/L	0.32		4.0	20	300.0
	Anly Batch:	500-62708	Date An	nalyzed	04/29/2009	1415			
Alkalinity		340		mg/L	1.1		5.0	1.0	310.1
	Anly Batch:	500-62347	Date Ar	nalyzed	04/24/2009	0906			

Client: TestAmerica Laboratories, Inc. Job Number:

500-18371-1

General	Chemistry
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Client Sample ID: TS40008

Lab Sample ID:

500-18371-10

Client Matrix:

Water

Date Sampled: 04/15/2009

1040

Date Received: 04/21/2009 1010

Analyte		Result	Qual	Units	MDL		RL	Dil	Method
Sulfate		130		mg/L	1.1		4.0	20	300.0
	Anly Batch:	500-62708	Date Ar	nalyzed	04/29/2009	1430			
Chloride		80		mg/L	0.32		4.0	20	300.0
	Anly Batch:	500-62708	Date Ar	nalyzed	04/29/2009	1430			
Alkalinity		310		mg/L	1.1		5.0	1.0	310.1
	Anly Batch:	500-62347	Date Ar	nalyzed	04/24/2009	0914			

Client Sample ID: TS40009

Lab Sample ID:

500-18371-11

Client Matrix: Water Date Sampled: 04/15/2009 1150

Date Received: 04/21/2009 1010

Analyte		Result	Qual	Units	MDL		RL	Dil	Method
Sulfate		42		mg/L	1.1		4.0	20	300.0
	Anly Batch:	500-62708	Date A	nalyzed	04/29/2009	1444			
Chloride		160		mg/L	0.32		4.0	20	300.0
	Anly Batch:	500-62708	Date A	nalyzed	04/29/2009	1444			
Alkalinity		300		mg/L	1.1		5.0	1.0	310.1
	Anly Batch:	500-62347	Date A	nalyzed	04/24/2009	0922			

Client Sample ID: TS40010

Lab Sample ID:

500-18371-12

Client Matrix: Water

Date Sampled: 04/15/2009

1325

Date Received: 04/21/2009 1010

Analyte Result Qual Units MDL RL Dil Method 82 mg/L 4.0 20 300.0 Sulfate 1.1 Anly Batch: 500-62708 Date Analyzed 04/29/2009 1458 20 Chloride mg/L 0.32 4.0 300.0 120 1458 Anly Batch: 500-62708 Date Analyzed 04/29/2009 Alkalinity 320 mg/L 1.1 5.0 1.0 310.1 Anly Batch: 500-62347 Date Analyzed 04/24/2009 0930

TestAmerica Laboratories, Inc.

Job Number:

500-18371-1

General	Chemistry
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Client Sample ID: TS40011

Lab Sample ID: 500-18371-13

Client Matrix:

Water

Date Sampled: 04/15/2009 1335

Date Received: 04/21/2009 1010

Analyte	Result	Qual Units	MDL	RL	Dil	Method
Sulfate	140	mg/L	1.1	4.0	20	300.0
	Anly Batch: 500-6270	8 Date Analyzed	04/29/2009	1513		
Chloride	110	mg/L	0.32	4.0	20	300.0
	Anly Batch: 500-6270	8 Date Analyzed	04/29/2009	1513		
Alkalinity	360	mg/L	1.1	5.0	1.0	310.1
-	Anly Batch: 500-6234	7 Date Analyzed	04/24/2009	0938		

Client Sample ID: TS40012

Lab Sample ID: 500-18371-14

Client Matrix:

Water

Date Sampled: 04/16/2009 1050

Date Received: 04/21/2009 1010

Analyte	Result	Qual Units MDL	RL	Dil Meth	od
Sulfate	110	mg/L 1.1	4.0	20 300.0	)
	Anly Batch: 500-62708	Date Analyzed 04/29/2009	1527		
Chloride	93	mg/L 0.32	4.0	20 300.0	)
	Anly Batch: 500-62708	Date Analyzed 04/29/2009	1527		
Alkalinity	350	mg/L 1.1	5.0	1.0 310.1	I
	Anly Batch: 500-62347	Date Analyzed 04/24/2009	0945		

Client Sample ID: TS40013

Lab Sample ID: 500-18371-15 Client Matrix:

Water

Date Sampled: 04/16/2009 1100

Date Received: 04/21/2009 1010

Analyte		Result	Qual (	Units	MDL		RL.	Dil	Method
Sulfate		67		mg/L	1.1		4.0	20	300.0
	Anly Batch:	500-62708	Date Analy	lyzed 0	4/29/2009	1541			
Chloride		110	r	mg/L	0.32		4.0	20	300.0
	Anly Batch:	500-62708	Date Anal	yzed 0	4/29/2009	1541			
Alkalinity		320	r	mg/L	1.1		5.0	1.0	310.1
·	Anly Batch:	500-62347	Date Anal	lyzed 0	4/24/2009	0954			

TestAmerica Laboratories, Inc.

Job Number:

500-18371-1

Client Sample ID: TS40014

Lab Sample ID:

500-18371-16

Client Matrix:

Water

Date Sampled: 04/16/2009

1340

Date Received: 04/21/2009

1010

Analyte		Result	Qual	Units	MDL		RL	Dil	Method
Sulfate		180		mg/L	1.1		4.0	20	300.0
	Anly Batch: 5	00-62708	Date Ar	nalyzed	04/29/2009	1653			
Chloride		44		mg/L	0.32		4.0	20	300.0
	Anly Batch: 5	00-62708	Date Ar	nalyzed	04/29/2009	1653			
Alkalinity		320		mg/L	1.1		5.0	1.0	310.1
	Anly Batch: 5	00-62347	Date Ar	nalyzed	04/24/2009	1009			

Client Sample ID: TS40015

Lab Sample ID:

500-18371-17

Client Matrix: Water

Date Sampled: 04/16/2009

0000

Date Received: 04/21/2009

1010

Analyte		Result	Qua	ıl Units	MDL		RL	Dil	Method
Sulfate		180		mg/L	1.1		4.0	20	300.0
	Anly Batch: 50	0-62708	Date /	Analyzed	04/29/2009	1707			
Chloride		43		mg/L	0.32		4.0	20	300.0
	Anly Batch: 50	00-62708	Date /	Analyzed	04/29/2009	1707			
Alkalinity		310		mg/L	1.1		5.0	1.0	310.1
	Anly Batch: 50	00-62347	Date A	Analyzed	04/24/2009	1017			

Client Sample ID: TS40016

Lab Sample ID: Client Matrix:

Analyte

Sulfate

Chloride

500-18371-18

Result

35

140

Anly Batch: 500-62708

Water

Date Sampled: 04/17/2009

1115

Date Received: 04/21/2009 1010

RL Dil Method 4.0 20 300.0 1722 4.0 300.0

Anly Batch: 500-62708 Date Analyzed 04/29/2009 1722 250 Alkalinity mg/L 1.1

Qual Units

mg/L

mg/L

Date Analyzed 04/29/2009

Anly Batch: 500-62347 Date Analyzed 04/24/2009 1039

MDL

1.1

0.32

5.0 1.0 310.1

TestAmerica Laboratories, Inc.

Job Number:

500-18371-1

General	Chemistry
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Client Sample ID: TS31001

Lab Sample ID: 500-18371-19

Client Matrix:

Water

Date Sampled: 04/17/2009 1115

Date Received: 04/21/2009 1010

Analyte	Result	Qual Units	MDL	RL	Dil	Method
Sulfate	34	B mg/L	1.1	4.0	20	300.0
	Anly Batch: 500-6283	Date Analyzed	04/30/2009	1048		
Chloride	43	mg/L	0.32	4.0	20	300.0
	Anly Batch: 500-6283	Date Analyzed	04/30/2009	1048		
Alkalinity	210	mg/L	1.1	5.0	1.0	310.1
·	Anly Batch: 500-6234	17 Date Analyzed	04/24/2009	1046		

Client Sample ID: TS31002

Lab Sample ID: 500-18371-20

Client Matrix:

Water

Date Sampled: 04/17/2009 0000

Date Received: 04/21/2009 1010

Analyte		Result	Qua	Units	MDL		RL	Dil	Method
Sulfate		34		mg/L	1.1		4.0	20	300.0
	Anly Batch: 5	500-62708	Date A	Analyzed	04/29/2009	1736			
Chloride		43		mg/L	0.32		4.0	20	300.0
	Anly Batch: 5	500-62708	Date A	Analyzed	04/29/2009	1736			
Alkalinity		210		mg/L	1.1		5.0	1.0	310.1
·	Anly Batch: 5	500-62347	Date A	Analyzed	04/24/2009	1053			

# ARCADIS Infrastructure, environment, facilities

13955

# CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page <u>1</u> of <u>1</u>

Contact & Company Name:	Telephone:	Preservative E A	EEE	Keys  Preservation Key: Container Information
ERIC HRITSUK	312,332,4937 x24	Filtered (🗸)		A. H.SO. 1. 40 ml Vial
Address:	Fax:	#of Containers 2 2	1 1 1	C. HNQ 3, 250 ml Plastic
B City MONROE ST Zip	312.332.4434 E-mail Address:	Container 2 1	3 9 3	D. NaOH 4. 500 ml Plastic E. None 5. Encore
1.001	ERIC HRITSUK ARCADIS US. COM		ER ANALYSIS & METH	G. Other: 8. 8 oz. Glass
Project Name/Location (City, State): PIAINWELL CW SAMPLING	Project #:	1 / / /	/ / 💥	H. Other. 9. Other, L. Pou
Sampler's Printed Name:	B0064539.0000.00500	/1./. 27/1		Matrix Key: SQ - Soil SE - Sediment NL - NAPL/C
Sampler's Printed Name: MICHAEL KOHASEN	22/1/2	1 2 2 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 \ N \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	SQ - Soil SE - Sediment NL - NAPL/C W - Water SL - Sludge SW - Sample
Sample ID	Collection Type (✓) Matrix  Pate Time Comp: Grab	12 12 12 12 12 12 12 12 12 12 12 12 12 1		Matrix Key: SO - Soil SE - Sediment NL - NAPL/C W - Water SL - Sludge SW - Sample T - Tissue A - Air Other:
T531000	413 09 1425 V W	X X X	X X X	
7540000	4/13 09 1600 V W	X X X	$X \mid X \mid X$	SODIUM, POTASSIUM,
TS40001	7/13/09/16/10 V W	X X X	X X X	SODIUM, POTASSIUM, MAGNESIUM & CALCIUM.
TSHM02	714691055 W	XXX	$X \mid X \mid X$	
TS40003	414/09 - V W	XXX	XXX	
T540004	flylog 1200 V W	XXX	XXX	
T540005	44 9 1350 V W	$  \times   \times   \times  $	$X \mid X \mid X$	
T540006	4/14/09 1420 V W	XXX	X X X	
•				
		- (NEXT		
Special Instructions/Comments:			☐ Special QA/QC Instructions(✓):	
Laboratory Informat	lion and Receipt	Relinquished By	Received By	Relinquished By Laboratory Received By
TAL-BURLINGTON	Cooler Custody Seal (✓)	i Name:	Printed Name:	Printed Name: Printed Name: Part Ame:
Cooler packed with ice ( </td <td>☐ Intact ☐ Not Intact Signal</td> <td></td> <td>Signature:</td> <td>Signature: Signature:</td>	☐ Intact ☐ Not Intact Signal		Signature:	Signature: Signature:
Specify Turnaround Requirements:  STANDARD	Sample Receipt:	READIS	Firm/Courier:	Firm/Courier: Firm:
Shipping Tracking #:	Condition/Cooler Temp:	ime: 1730	Date/Time:	Date/Time: Date/Time: 4/15/09 1025



<sup>ID#:</sup> 13953

# CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page <u>\lambda</u> of <u>\lambda</u>

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Contact & Company Name:	Telephone:	Preservative E A	EEEC	Keys
ω <sup>γ.</sup> Λ <b>.</b>		Preservative E A	EEEC	Preservation Key: Container information Key: A. H,SO. 1. 40 ml Vial
ERIC HRITSUK	312 332 4937 x 24	#of Containers 2 2		B. HCL 2. 1 L Amber C. 1NO <sub>3</sub> 3. 250 ml Plastic
30 W. Moisrae ST	317 330 4434	Container 0	3 9 3 3	D. NaOH 4, 500 ml Plastic
State Zip	312 332 4434 E-mail Address:		R ANALYSIS & METHOD	E None 5 Encore F. Other 6 2 oz Glass 7 4 oz Glass
"CHICAGO IL GOGOS	ERV. HRITSUK @ARCADIS-US. COM			G. Other: 8, 8 oz. Glass
Project Name/Location (City, State): PLANNELL GW SAMPLING	Project #:			H. Other: 9 Other 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther: 10.0ther
PLAINWILL GW SAMPLING Sampler's Printed Name:	R0064539,000,00500	// / / 2/2/	W. 1. 27 ( Rd	Matrix Key: SO - Soil SE - Sediment NL - NAPL/Oil
Sampler's Printed Name: MICHAEL KOHAGE		12 4 12 4 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2	X A X X X X X X X X X X X X X X X X X X	W - Water SL - Sludge SW - Sample Wipe T - Tissue A - Air Other:
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T540008	415 09 1040 V W	XXX	XXX	TOTAL METALS INCLUDE: SODIUM, POTASSIUM,
T540009	41509 1150 V W	X X X	XXX	MAGNESIUM & CALCIUM.
Tsilonia		XXX	XXX	
		<del>  /                                   </del>	XXX	
T540011	1/15/09 1335 V W			
TS40012	1/16/07 1050 V W	XXX	XXX	
T540013	416/9/1100 / W	$\lambda X X$	X X X	Ms/msD
T54014	H1499 1340 VW	XXX	XXX	
TS40015	4/16/07 - W	x x x	XXX	
1310013				
			3	
		N		
Special Instructions/Comments:			☐Special QA/QC Instructions(✓):	
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Cooler packed with ice (*)	☐ Intact ☐ Not Intact Signa	WICHARD KONSCEN	Signature: Signa	ature: Signatura:
				/Courier: Frim:
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		10/09 1730		1 1/1/

A	ARCADIS
Infrastru	acture, environment, facilities

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	3734

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# CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page \_\_\_ of \_\_\_

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	200
Lah Work Order #	1068
Lad vvoik Cidel #	6393
	2.27
	50 K
	867
	0.0

Contact & Company Name:	Telephone:		2 (10)		0.11	Preservative	E	A	E	E	E	<u></u>		Preservation Key:	Keys Container Information Key: 1. 40 ml Vial
ERIC HRITSUK	Fax:	- 22	2 49.	3 / X	.27	Filtered ( ) # of Containers</td <td>2</td> <td>2</td> <td></td> <td>ſ</td> <td>1</td> <td>j.</td> <td></td> <td>A. H,SO, B. HCL C. HNO,</td> <td>2. 1 L Amber 3. 250 ml Plastic</td>	2	2		ſ	1	j.		A. H,SO, B. HCL C. HNO,	2. 1 L Amber 3. 250 ml Plastic
	312	332	443	4		Container Information	2	1	3	À	3	3		D. NaOH E. None F. Other:	4. 500 ml Plastic 5. Encore 6. 2 oz. Glass
1 1 HICAGO LL (303					5-US.G	3m /	PAF	RAMETE	<u>:R ANAI</u>	LYSIS 8	METH	טנ <i>י</i> /		G. Other:	7. 4 oz. Glass 8. 8 oz. Glass 9. Other. L. Pory
Poject Name/Location (City, State):  HAPLIFY CW SAMPLIFY  Spokler's Printed Name:  NICHAEL OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFFICE  OFF	Book	4539	steep.c			//		J7/		Au'	m 25/	\$ #\z		H. Other: Matrix Key:	10.Other:
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Specify Turnaround Requirements:	Sample	Receipt:			Firmy	0010			Firm/Courier:			Firm/Courier:		Firm:	
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# Kalamazoo River Superfund Site Former Plainwell Impoundment Groundwater Sampling

## **Data Review**

PLAINWELL, MICHIGAN

PCB, Metals and Miscellaneous Analyses

SDG# KAL462

Analyses Performed By: TestAmerica Laboratories Burlington, Vermont

Report: # 10605R Review Level: Tier III

Project: B0064539.0000.00500

#### SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #KAL462 for samples collected in association with the Plainwell site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

			Sample	Parent	Analysis				
Sample ID	Lab ID	Matrix	Collection Date	Sample	voc	svoc	PCB	MET	MISC
TS31003	799720	Ground Water	6/29/2009				Χ	Х	Х
TS40017	799721	Ground Water	6/29/2009				Χ	Х	Х
TS40018	799722	Ground Water	6/29/2009				Χ	Х	Х
TS40019	799723	Ground Water	6/29/2009				Χ	Х	Х
TS40020	799724	Ground Water	6/30/2009				Χ	Х	Х
TS40021	799725	Ground Water	6/30/2009	TS40020			Χ	Х	Х
TS40022	799726	Ground Water	6/30/2009				Χ	Х	Х
TS40023	799727	Ground Water	6/30/2009				Χ	Х	Х
TS40024	799728	Ground Water	6/30/2009				Χ	Х	Х
TS40025	799729	Ground Water	6/30/2009				Χ	Х	Х
TS40026	799840	Ground Water	7/1/2009				Χ	Х	Х
TS40027	799841	Ground Water	7/1/2009				Х	Х	Х
TS40028	799842	Ground Water	7/1/2009				Х	Х	Х
TS40029	799843	Ground Water	7/1/2009				Х	Х	Х
TS40030	799844	Ground Water	7/1/2009				Х	Х	Х
TS40031	799845	Ground Water	7/1/2009	TS40030			Χ	Х	Х
TS40032	799846	Ground Water	7/1/2009				Х	Х	Х
TS40033	799924	Ground Water	7/2/2009				Х	Х	Х
TS31004	799925	Ground Water	7/2/2009				Χ	Х	Х
TS31005	799926	Ground Water	7/2/2009	TS31004		_	Х	Х	Х

#### Note:

- 1. Miscellaneous parameters include total organic carbon (TOC), total suspended solids (TSS), total dissolved solids (TDS), chloride, sulfate, and alkalinity.
- Matrix spike/matrix spike duplicate/laboratory duplicate was performed on sample locations TS40024 and TS31004.

### **ANALYTICAL DATA PACKAGE DOCUMENTATION**

The table below is the evaluation of the data package completeness.

		Rep	orted		mance ptable	Not
	Items Reviewed	No	Yes	No	Yes	Required
1.	Sample receipt condition		Х		Х	
2.	Requested analyses and sample results		Х		Х	
3.	Master tracking list		Х		Х	
4.	Methods of analysis		Х		Х	
5.	Reporting limits		Х		Х	
6.	Sample collection date		Х		Х	
7.	Laboratory sample received date		Х		Х	
8.	Sample preservation verification (as applicable)		Х		Х	
9.	Sample preparation/extraction/analysis dates		Х		Х	
10.	Fully executed Chain-of-Custody (COC) form		Х		Х	
11.	Narrative summary of QA or sample problems provided		Х		Х	
12.	Data Package Completeness and Compliance		Х		Х	-

QA - Quality Assurance

#### ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 8082. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999 and USEPA Region II (SOP HW-45, Revision 1).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - UB Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

The data presented in this package has been derived using a procedure developed by TestAmerica as an attempt to improve the analytical process of calibration, identification and quantitation of PCBs as Aroclors. Key components of this procedure include:

#### Calibration

The response function of the electron capture detector is inherently non-linear. While significant linearization is achieved for this detector by electronic means, some non-linearity remains. Power function linearization is used to straighten the curve and allow the use of response factors for calibration purposes.

During the initial calibration, a response factor is calculated for each peak in the individual Aroclors. A weighted response factor calculation has been used to adjust for non-linearity at the low end of the calibration curve.

#### Identification

Peak retention times are relative. Retention times are in set windows relative to the time markers DCB and TCX. Time markers adjust for minor variations in column flow or instrument condition and allow the use of very tight windows which minimizes the number of false positive and false negative peak identifications.

The determination of which Aroclor or mixture of Aroclors will produce a chromatogram most similar to that of the residue is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors. This is similar to the procedure presented by L.E. Silvon, P.M. Schumacher and A. Alford-Stevens for the determination of Aroclor composition from GC/MS level of chlorination results.

Identification/quantitation of Aroclors in samples is based on the combined response of two columns, typically RTX-5 and RTX-35. The pooling of response combines the unique qualities of both columns to derive a more defined Aroclor pattern which is less likely to be affected by interferents. Identification/quantitation data for the individual columns is provided in the package and can be used as a check on the combined column results.

### POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

#### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
014/ 0.40 0000	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
SW-846 8082	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding time criteria.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

#### 3. System Performance

System performance and column resolution were acceptable.

#### 4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

#### 4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for all Aroclors.

### 4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All calibration criteria were within the control limits.

#### 5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires the surrogate compounds must exhibited recoveries within the method established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Surrogate	Recovery
TS40027	Tetrachloro-m-xylene	< LL but > 10%
TS40031	Decachlorobiphenyl	AC

Lower control limit (LL) Acceptable (AC)

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
> the upper control limit (OL)	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
< the lower control limit (EE) but > 10 %	Detect	J
< 10%	Non-detect	R
< 1076	Detect	٦
One surrogate exhibiting recovery outside the control limits	Non-detect	No Action
but > 10%	Detect	NO ACTION
Surrogates diluted below the calibration curve due to the	Non-detect	$J^1$
high concentration of a target compound.	Detect	J

A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

#### 6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the method established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the method established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

#### 7. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the method established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

#### 8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
TS40020/TS40021	All Aroclors	0.048 U	0.048 U	AC
TS40030/TS40031	All Aroclors	0.049 U	0.051 U	AC
TS31004/TS31005	Aroclor 1242	0.048 U	0.048 U	AC

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 9. Compound Identification

The determination of Aroclor presence is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors.

All identified compounds met the specified criteria.

#### 10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

## **DATA VALIDATION CHECKLIST FOR PCBs**

PCBs; SW846 8082	Rep	orted		rmance eptable	Not
	No	Yes	No	Yes	Required
GAS CHROMATOGRAPHY (GC/FID)					
Tier II Validation					
Holding times		Х		Х	
Reporting limits (units)		Х		Х	
Blanks					
A. Method blanks		Х		Х	
B. Field blanks		Х		Х	
Laboratory Control Sample (LCS) %R		Х		Х	
Laboratory Control Sample Duplicate(LCSD) %R					Х
LCS/LCSD Precision (RPD)					Х
Matrix Spike (MS) %R		Х		Х	
Matrix Spike Duplicate(MSD) %R		Х		Х	
MS/MSD Precision (RPD)		Х		Х	
Field Duplicate (RPD)		Х		Х	
Surrogate Spike Recoveries		Х	Х		
Dilution Factor		Х		Х	
Moisture Content		Х		Х	
Tier III Validation					
Initial calibration %RSDs		Х		Х	
Continuing calibration %Ds		Х		Х	
System performance and column resolution		Х		Х	
Compound identification and quantitation		1			1
A. Quantitation Reports		Х		Х	
B. RT of sample compounds within the established RT windows		Х		Х	
C. Pattern identification		Х		Х	
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X PPD role		X nt difference	

<sup>%</sup>RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

#### INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Methods 6010B, 9060, 300.0, 310.1 and SM2540. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
  - B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).
- Quantitation (Q) Qualifiers
  - E The reported value is estimated due to the presence of interference.
  - N Spiked sample recovery is not within control limits.
  - Duplicate analysis is not within control limits.
- Validation Qualifiers
  - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
  - UB Analyte considered non-detect at the listed value due to associated blank contamination.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

#### **METALS ANALYSES**

#### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the instrument detection limit (IDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the IDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (J) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
TS40018	Potassium	Detected sample results <rl <bal<="" and="" td=""><td>"UB" at the RL</td></rl>	"UB" at the RL

RL = reporting limit

#### 3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

#### 3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard

recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

#### 3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard analysis are presented below in the CRDL standards evaluation table.

All CRDL standard recoveries were within control limits.

#### 3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

#### 4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

#### 4.1 MS Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS analysis performed on sample locations TS40024 and TS31004 exhibited recoveries within the control limits.

#### 4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited RPD within the control limit.

#### 5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
TS40020/TS40021	Calcium	93800	96000	2.3%
	Magnesium	21400	22100	3.2%
	Sodium	52700	54300	2.9%
	Potsassium	1650 B	1830 B	AC
	Calcium	123000	124000	0.8%
TS40030/TS40031	Magnesium	25400	25700	1.1%
1340030/1340031	Sodium	56300	56600	2.9%
	Potsassium	1930 B	2170 B	AC
	Calcium	84800	83900	1.0%
TS31004/TS31005	Magnesium	23000	22800	0.8%
	Sodium	27500	27200	1.0 %
	Potsassium	2680 B	2620 B	AC

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

#### 7. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution performed on sample locations TS40024 and TS31004 exhibited %D within the control limit.

#### 8. Furnace Analysis QC

No furnace analyses were performed on the samples.

#### 9. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

## 10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

## **DATA VALIDATION CHECKLIST FOR METAL**

METALS; SW-846 6000/7000	Rep	orted		rmance ptable	Not
·	No	Yes	No	Yes	Required
Inductively Coupled Plasma-Atomic Emission Spe	ectrometry	(ICP)			
Atomic Absorption – Manual Cold Vapor (CV)					
Tier II Validation					
Holding Times		Х		Х	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		Х		Х	
B. Method Blanks		Х		Х	
C. Equipment/Field Blanks		Х		Х	
Laboratory Control Sample (LCS)		Х		Х	
Matrix Spike (MS) %R		Х		Х	
Matrix Spike Duplicate (MSD) %R		Х		Х	
MS/MSD Precision (RPD)		Х		Х	
Field/Lab Duplicate (RPD)		Х		Х	
ICP Serial Dilution		Х		Х	
Reporting Limit Verification		Х		Х	
Raw Data		Х		Х	
Tier III Validation					
Initial Calibration Verification		Х		Х	
Continuing Calibration Verification		Х		Х	
CRDL Standard		Х		Х	
ICP Interference Check		Х		Х	
Transcription/calculation errors present		Х		Х	
Reporting limits adjusted to reflect sample dilutions		Х		Х	

%R Percent recovery
RPD Relative percent difference

#### **GENERAL CHEMISTRY ANALYSES**

### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Total Organic Carbon by EPA 9060	Water	28 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
Total Dissolved Solids By EPA 160.1	Water	7 days from collection to analysis	Cooled @ 4 °C.
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.
Chloride by EPA 300.0	Water	28 days from collection to analysis	Cooled @ 4 °C.
Sulfate by EPA 300.0	Water	28 days from collection to analysis	Cooled @ 4 °C.
Alkalinity by EPA 310.1	Water	14 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding time criteria.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL. No qualification of the sample results was required.

#### 3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within control limits.

All calibration standard recoveries were within the control limit.

#### 4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

#### 4.1 MS Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS analysis performed on sample locations TS40024 and TS31004 exhibited recoveries within the control limits.

#### 4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited a RPD within the control limit.

#### 5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	TOC	2.0	2.2	9.5%
	TDS	503	516	2.5%
TS40020/TS40021	TSS	11.7	11.8	0.8%
	Chloride	91	92	1.0%
	Sulfate	38	39	2.5%
	Alkalinity	260	260	0%
TC 40000/TC 40004	TOC	5.1	5	1.9%
TS40030/TS40031	TDS	615	613	0.3%
	TSS	19.3	19.5	1.0%

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Chloride	110	100	9.5%
	Sulfate	94	96	2.1%
	Alkalinity	300	300	0%
	TOC	6.2	6.3	1.5%
	TDS	407	395	2.9%
TS31004/TS31005	TSS	14.1	13.9	1.4%
	Chloride	51	51	0%
	Sulfate	29	28	3.5%
	Alkalinity	240	250	4.0%

AC Acceptable U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

#### 7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

## DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: Various Methods	Rep	orted		mance ptable	Not
	No	Yes	No	Yes	Required
Miscellaneous Instrumentation					
Tier II Validation					
Holding times		Х		Х	
Reporting limits (units)		Х		Х	
Blanks			•		
A. Method blanks		Х		Х	
B. Field blanks		Х		Х	
Laboratory Control Sample (LCS) %R		Х		Х	
Laboratory Control Sample Duplicate(LCSD) %R					Х
LCS/LCSD Precision (RPD)					Х
Matrix Spike (MS) %R		Х		Х	
Matrix Spike Duplicate(MSD) %R					Х
MS/MSD Precision (RPD)					Х
Lab/Field Duplicate (RPD)		Х		Х	
Dilution Factor		Х		Х	
Moisture Content		Х		Х	
Tier III Validation					
Initial calibration %RSD or correlation coefficient		Х		Х	
Continuing calibration %R		Х		Х	
Raw Data		Х		Х	
Transcription/calculation errors present				Х	
Reporting limits adjusted to reflect sample dilutions		X		X	

<sup>%</sup>RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference,

<sup>%</sup>D – difference

VALIDATION PERFORMED

BY: Jeffrey L. Davin

SIGNATURE:

DATE: August 10, 2009

PEER REVIEW: Dennis Capria

DATE: August 25, 2009

# CHAIN OF CUSTODY/ CORRECTED SAMPLE ANALYSIS DATA SHEETS

# FORM 1 AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

				TS	331003
Lab Name: _	TestAmerica Burling	ton	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG:	KAL462
D	WATER			700720	
Phase Type:	WAICK	_	Lab Sample ID:	799720	
Phase Weight:	1060.	_ (mL)	Date Received:	07/01/09	····
Injection Volume:	1.0	(uL)	Date Extracted:	07/06/09	
Dilution Factor:	1.0	_	Date Analyzed:	07/09/09	
% Solids:		<del></del>	Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Arocior-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

# FORM 1 AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

					-	TS40017	,
Lab Name: _	TestAmerica Burling	ton	Lab Code:	STLV			
Contract:	27000	· ·	Case:	KZOO	SDG:	KAL462	
Phase Type:	WATER	_	Lab	Sample ID:	799721		
Phase Weight:	1005.	(mL)	Date	Received:	07/01/09		
Injection Volume:	1.0	_ (uL)	Date	Extracted:	07/06/09		
Dilution Factor:	1.0	_	Date	Analyzed:	07/09/09		
% Solids:			Sulfu	r Clean-un:	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

# FORM 1 AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

(Y/N)

TS40018 Lab Name: \_\_\_TestAmerica Burlington STLV Lab Code: \_\_ Contract: 27000 KAL462 KZOO SDG: Case: Phase Type: WATER Lab Sample ID: 799722 1000. (mL) 07/01/09 Phase Weight: Date Received: 1.0 (uL) 07/06/09 Injection Volume: Date Extracted: 1.0 07/09/09 Dilution Factor: Date Analyzed:

% Solids:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Sulfur Clean-up:

EPA SAMPLE NO.

07/09/09

(Y/N)

					,	TS40019	
Lab Name: _	TestAmerica Burlingt	on	Lab Code:	STLV			
Contract:	27000		Case:	KZOO	SDG:	KAL462	_
Phase Type:	WATER		La	b Sample ID:	799723		
Phase Weight:	1020.	(mL)	· Da	ate Received: _	07/01/09		
Injection Volume:	1.0	(uL)	Da	ite Extracted:	07/06/09		

Dilution Factor: 1.0

% Solids: \_\_\_\_\_

Date Analyzed:

Sulfur Clean-up:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	υ
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

EPA SAMPLE NO.

Sulfur Clean-up: N (Y/N)

				TS40020	
Lab Name: _	TestAmerica Bur	lington	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG: KAL462	
Phase Type:	WATER	****	Lab Sample ID:	799724	
Phase Weight:	1040.	(mL)	Date Received:	07/01/09	
Injection Volume:	1.0	(uL)	Date Extracted:	07/06/09	
Dilution Factor:	1.0		Date Analyzed:	07/09/09	

% Solids:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	υ
11096-82-5	Aroclor-1260	0.048	U

				Т	S40021
Lab Name: _	TestAmerica Bur	lington	Lab Code:STLV		
Contract:	27000		Case: KZOO	SDG:	KAL462
Phase Type:	WATER	<del></del>	Lab Sample ID:	799725	
Phase Weight:	1040.	(mL)	Date Received:	07/01/09	
Injection Volume:	1.0	(uL)	Date Extracted:	07/06/09	A STATE OF A STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE
Dilution Factor:	1.0		Date Analyzed:	07/09/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION	QUALIFIER
		ug/L	
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

						TS40022	
Lab Name: _	TestAmerica Burli	ngton	Lab Code:	STLV			
Contract:	27000	ALCADA IN THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STAT	Case: _	KZOO	SDG:	KAL462	
Phase Type:	WATER		La	b Sample ID:	799726	and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t	
Phase Weight:	1060.	(mL)	Da	te Received:	07/01/09		
Injection Volume:	1.0	(uL)	Da	te Extracted:	07/06/09	)	
Dilution Factor:	1.0		Da	nte Analyzed:	07/09/09		
% Solide:			Sulf	fur Clean-un:	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

					TS40023
Lab Name: _	TestAmerica Burl	ington	Lab Code:STLV		
Contract:	27000		Case: KZOO	SDG:	KAL462
Phase Type:	WATER		Lab Sample ID:	799727	
Phase Weight:	1030.	(mL)	Date Received: _	07/01/09	9
Injection Volume:	1.0	(uL)	Date Extracted: _	07/06/09	9
Dilution Factor:	1.0		Date Analyzed:	07/09/09	9
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Arocior-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

				-	TS40024
Lab Name: _	TestAmerica Burli	ngton	Lab Code: STLV		A 244 A 44 A 44 A 44 A 44 A 44 A 44 A 4
Contract:	27000		Case: KZOO	SDG:	KAL462
Phase Type:	WATER		Lab Sample ID:	799728	
Phase Weight:	1040.	(mL)	Date Received:	07/01/09	
Injection Volume:	1.0	(uL)	Date Extracted:	07/06/09	
Dilution Factor:	1.0		Date Analyzed:	07/09/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION	QUALIFIER
12674-11-2	Aroclor-1016	ug/L 0.048	l u
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

					TS40025
Lab Name: _	TestAmerica Bur	lington	Lab Code:STLV		
Contract:	27000		Case: KZOO	SDG:	KAL462
Phase Type:	WATER		Lab Sample ID:	799729	
Phase Weight:	1020.	(mL)	Date Received:	07/01/09	9
Injection Volume:	1.0	(uL)	Date Extracted:	07/06/09	9
Dilution Factor:	1.0		Date Analyzed:	07/09/09	9
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroctor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

						1540026	
Lab Name: _	TestAmerica Bur	lington	Lab Code:	STLV			
Contract:	27000		Case:	KZOO	SDG:	KAL462	
Phase Type:	WATER		La	b Sample ID:	799840		
Phase Weight:	1000.	(mL)	Da	ate Received:	07/02/09	)	
njection Volume:	1.0	(uL)	Da	te Extracted: _	07/06/09	)	
Dilution Factor:	1.0		Da	ate Analyzed:	07/09/09	<del>)</del>	
% Solids:			Sul	fur Clean-up: _	N	()	Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	Ú
11096-82-5	Aroclor-1260	0.050	υ

					т	S40027	
Lab Name: _	TestAmerica Burling	ton	Lab Code:	STLV			
Contract:	27000		Case:	KZOO	SDG:	KAL462	
Phase Type:	WATER	_	La	b Sample ID:	799841		
Phase Weight:	960.	(mL)	Da	ite Received:	07/02/09		
Injection Volume:	1.0	_ (uL)	Da	te Extracted:	07/06/09		
Dilution Factor:	1.0	<u> </u>	Da	ate Analyzed:	07/09/09		
% Solids:		<del>_</del>	Sul	fur Clean-up:	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.052	U
11104-28-2	Aroclor-1221	0.052	U
11141-16-5	Aroclor-1232	0.052	U
53469-21-9	Aroclor-1242	0.052	U
12672-29-6	Aroclor-1248	0.052	U
11097-69-1	Aroclor-1254	0.052	U
11096-82-5	Aroclor-1260	0.052	U

						TS40028	
Lab Name: _	TestAmerica Burlir	igton	Lab Code: _	STLV			
Contract:	27000		Case:	KZOO	SDG:	KAL462	
Phase Type:	WATER		Lat	o Sample ID:	799842		
Phase Weight:	1050.	(mL)	Da	te Received:	07/02/09	)	
Injection Volume:	1.0	(uL)	Dat	te Extracted:	07/06/09	)	
Dilution Factor:	1.0		Da	te Analyzed:	07/09/09	)	
% Solids:			Sulf	ur Clean-up:	N	(	Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

					Т	r\$40029	
Lab Name:	TestAmerica Burling	ton	Lab Code:	STLV			
Contract: _	27000	_	Case: _	KZOO	SDG:	KAL462	
Phase Type:	WATER	_	La	b Sample ID:	799843		
Phase Weight:	960.	(mL)	Da	ite Received:	07/02/09		
Injection Volume:	1.0	(uL)	Da	te Extracted:	07/06/09		
Dilution Factor:	1.0	_	Da	ate Analyzed:	07/09/09		
% Solids:			Sul	fur Clean-up:	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.052	U
11104-28-2	Aroclor-1221	0.052	U
11141-16-5	Aroclor-1232	0.052	υ
53469-21-9	Aroclor-1242	0.052	U
12672-29-6	Aroclor-1248	0.052	U
11097-69-1	Aroclor-1254	0.052	U
11096-82-5	Aroclor-1260	0.052	U

						TS40030
Lab Name: _	TestAmerica Burlingt	on	Lab Code:	STLV		
Contract:	27000	_	Case:	KZOO	SDG:	KAL462
Phase Type:	WATER	_	La	b Sample ID:	799844	
Phase Weight:	1020.	_ (mL)	Da	ite Received:	07/02/09	
Injection Volume:	1.0	_ (uL)	Da	te Extracted:	07/06/09	
Dilution Factor:	1.0	<del>-</del>	Da	ate Analyzed:	07/09/09	
% Solids:			Sul	fur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION	QUALIFIER
		ug/L	
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

						TS40031	
Lab Name: _	TestAmerica Burlin	ngton	Lab Code:	STLV			
Contract:	27000		Case: _	KZ00	SDG:	KAL462	
Phase Type:	WATER		La	b Sample ID:	799845		
Phase Weight:	980.	(mL)	Da	nte Received:	07/02/09	)	
Injection Volume:	1.0	(uL)	Da	te Extracted:	07/06/09		
Dilution Factor:	1.0		Da	ate Analyzed:	07/09/09	)	
% Solids:			Sul	fur Clean-up:	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER	
12674-11-2	Aroclor-1016	0.051	U	
11104-28-2	Aroclor-1221	0.051	U	
11141-16-5	Aroclor-1232	0.051	U	
53469-21-9	Aroclor-1242	0.051	U	
12672-29-6	Aroclor-1248	0.051	U	
11097-69-1	Aroclor-1254	0.051	U	
11096-82-5	Aroclor-1260	0.051	U	

EPA SAMPLE NO.

07/06/09

			TS40032	
 Lab Code:	STLV			
Case:	KZOO	sDG: _	KAL462	
Lab Sample ID:		799846		
Da	ate Received:	07/02/09	9	

Date Extracted:

 Dilution Factor:
 1.0
 Date Analyzed:
 07/09/09

 % Solids:
 Sulfur Clean-up:
 N
 (Y/N)

Lab Name: \_\_\_TestAmerica Burlington

WATER

1040.

(mL)

(uL)

Contract: 27000

Phase Type:

Phase Weight:

Injection Volume: 1.0

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

					٦	TS40033
Lab Name:	TestAmerica Burling	gton	Lab Code: _	STLV		
Contract:	27000		Case:	KZ00	SDG:	KAL462
Phase Type:	WATER		Lal	b Sample ID:	799924	
Phase Weight:	1020.	(mL)	Date Received:		07/03/09	
Injection Volume:	1.0	(uL)	Date Extracted:		07/06/09	
Dilution Factor:	1.0		Da	ate Analyzed:	07/09/09	
9/ Solide:			Sul	fur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Arocior-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

				٦	TS31004
Lab Name: _	TestAmerica Burli	ngton	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG:	KAL462
Phase Type:	WATER		Lab Sample ID:	799925	
Phase Weight:	1040.	(mL)	Date Received:	07/03/09	<del></del>
Injection Volume:	1.0	(uL)	Date Extracted:	07/06/09	
Dilution Factor:	1.0	-	Date Analyzed:	07/09/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	υ

					ר	ΓS31005	
Lab Name: _	TestAmerica Burlin	gton	_ Lab Code:	STLV			
Contract:	27000		Case: _	KZOO	SDG:	KAL462	
Phase Type:	WATER		La	b Sample ID:	799926		
Phase Weight:	1040.	(mL)	Da	ate Received:	07/03/09		
Injection Volume:	1.0	(uL)	Date Extracted:		07/06/09		
Dilution Factor:	1.0		Da	ate Analyzed:	07/09/09		
% Solids:			Sul	fur Clean-up:	N	· (	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

						-		TS31003
Lab Name:	TestAmer	rica Burlingtor	Contr	act: 29000		L_		
Lab Code:	STLV	Case No.:	KZOO SI	AS No.:		SDG No	o.:	KAL462
Matrix (soi	il/water):	WATER		Lab Sample ID:		79972	0	
Level (low/	/med):	LOW		Date Received:		07/01	/09	
% Solids:	0.0							
		Concentration (	Jnits (ug/L or m	g/kg dry weight):		UG/L	ı	_
		CAS No.	Analyte	Concentration	С	Q	м	
		7440-70-2	Calcium	79700	<u> </u>		P	
		7439-95-4	Magnesium	21000	Ī		P	

23300

2720 |B |N

P

P

Sodium

Potassium

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:		letinos			

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### INORGANIC ANALYSES DATA SHEET

							TS31004
Lab Name:	TestAmer	ica Burlington		Contract:	29000	<u> </u>	
Lab Code:	STLV	Case No.:	KZOO	SAS No.:		SDG No.:	KAL462
Matrix (soil	l/water):	WATER		Lab	Sample ID:	799925	н
Level (low/m	med):	LOW		Dat	ce Received:	07/03/09	
% Solids:	0.0	-					
		Concentration Un	nits (ug/1	L or mg/kg di	ry weight):	UG/L	
			31-	-t-			7

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	84800			P
7439-95-4	Magnesium	23000			P
7440-23-5	Sodium	27500			P
7440-09-7	Potassium	2680	В	M	P

Color Before:	colorless	Clarity Before:	clear	Texture:	NO.
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:		**************************************			
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### INORGANIC ANALYSES DATA SHEET

T831005								E	PA SAMPLE NO.
Lab Code:         STLV         Case No.:         KZOO         SAS No.:         SDG No.:         KAL462           Matrix (soil/water):         WATER         Lab Sample ID:         799926           Level (low/med):         LOW         Date Received:         07/03/09           % Solids:         0.0           Concentration Units (ug/L or mg/kg dry weight):         UG/L           CAS No.         Analyte         Concentration         C Q M           7440-70-2         Calcium         83900         P           7439-95-4         Magnesium         22800         P           7440-23-5         Sodium         27200         P									TS31005
Matrix (soil/water): WATER Lab Sample ID: 799926  Level (low/med): LOW Date Received: 07/03/09  * Solids: 0.0  Concentration Units (ug/L or mg/kg dry weight): UG/L  CAS No. Analyte Concentration C Q M  7440-70-2 Calcium 83900 P  7439-95-4 Magnesium 22800 P  7440-23-5 Sodium 27200 P	Lab Name:	TestAmer	rica Burlington	Contra	ct: 29000		L_		
Level (low/med): LOW Date Received: 07/03/09  % Solids: 0.0  Concentration Units (ug/L or mg/kg dry weight): UG/L  CAS No. Analyte Concentration C Q M  7440-70-2 Calcium 83900 P  7439-95-4 Magnesium 22800 P  7440-23-5 Sodium 27200 P	Lab Code:	STLV	Case No.:	KZOO SAS	5 No.:		SDG No	o.:	KAL462
% Solids: 0.0    Concentration Units (ug/L or mg/kg dry weight): UG/L   UG/L	Matrix (soi	il/water):	WATER	-	Lab Sample ID:		79992	6	
CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         83900         P           7439-95-4         Magnesium         22800         P           7440-23-5         Sodium         27200         P	Level (low/	/med):	LOW		Date Received:		07/03	/09	
CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         83900         P           7439-95-4         Magnesium         22800         P           7440-23-5         Sodium         27200         P	% Solids:	0.0	_						
7440-70-2       Calcium       83900       P         7439-95-4       Magnesium       22800       P         7440-23-5       Sodium       27200       P			Concentration U	nits (ug/L or mg	/kg dry weight):		UG/L	1	
7439-95-4 Magnesium 22800 P P 7440-23-5 Sodium 27200 P			CAS No.	Analyte	Concentration	С	Q	м	
7440-23-5   Sodium   27200   P			7440-70-2	Calcium	83900			P	
			7439-95-4	Magnesium	22800	Ī	Ī	P	
7440-09-7   Potassium   2620   B   M   P			7440-23-5	Sodium	27200	Π	Ī .	P	
			7440-09-7	Potassium	2620	В	M	P	
			7440-09-7	Potassium	2620	В	]M	P	

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:			***************************************		(Physical Agency
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### INORGANIC ANALYSES DATA SHEET

						rs40017
b Name:	TestAme	rica Burlingto	n Contra	at: <u>29000</u>	<u> </u>	
b Code:	STLV	Case No.:	KZOO SAS	S No.:	_ SDG No.: KA	L462
trix (soi	1/water):	WATER		Lab Sample ID:	799721	**************************************
vel (low/	med):	LOW		Date Received:	07/01/09	
Solids:	0.0					
DOTTUS.	<u> </u>	<del></del>				
		Concentration	Units (ug/L or mg	<pre>//kg dry weight):</pre>	UG/L	
		CAS No.	Analyte	Concentration	C Q M	
		7440-70-2	Calcium	190000	P	
		7439-95-4	Magnesium	33700	P	
		7440-23-5	Sodium	14300	P	
		7440-09-7	Potassium	7490	M P	
Color Be	fore: C	olorless	Clarity Before:	clear	Texture:	
Color Be		· · · · · · · · · · · · · · · · · · ·	Clarity Before: Clarity After:	clear	Texture:	
	ter: <u>c</u>	· · · · · · · · · · · · · · · · · · ·				

### INORGANIC ANALYSES DATA SHEET

						L		
Lab Name:		rica Burlingto						
Lab Code:	STLV	_ Case No.:	KZOO SA	AS No.:		SDG No	.: <u>KAL46</u>	2
Matrix (soi	l/water):	WATER		Lab Sample ID:		799722	2	*****
Level (low/	med):	LOW Date Received:				07/01/09		
% Solids:	0.0							
			Thite (n=/T	-/lea dans		TTC /T		
		Concentration	onits (ug/L or m	g/kg dry weight):		UG/L		
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	95300			P	
		7439-95-4	Magnesium	19000			P	
		7440-23-5	Sodium	27700			P	
		7440-09-7	Potassium	5000 -1160*	B	N UB	P	
Color Bei	fore: co	lorless	Clarity Before:	clear	Te	xture:		\$ V
Color Aft	cer: co	lorless	Clarity After:	clear	. Ar	tifact	s:	
Comments	·					<del></del>		
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### INORGANIC ANALYSES DATA SHEET

TS40019	

								TS40019
Lab Name:	TestAmer	ica Burlington	Contrac	et: <u>29000</u>				
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL462
Matrix (soi	1/water):	WATER	Lab Sample ID: 7997				3	
Level (low/	med):	LOW		Date Received:		07/01/	/09	
% Solids:	0.0	_						
		Concentration Ur	nits (ug/L or mg/	kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	116000	$\vdash$		P	
		7439-95-4	Magnesium	27800		1	P	
		7440-23-5	Sodium	56000			P	
		7440-09-7	Potassium	2360	В	M	P	
						,		

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	***************************************
Comments:					
-					
_					

### INORGANIC ANALYSES DATA SHEET

								TS4002
Lab Name:	TestAmer	cica Burlington	Contra	act: 29000				
Lab Code:	STLV	Case No.:	KZOO SA	AS No.:		SDG No	·.:	KAL462
Matrix (soi	l/water):	WATER		Lab Sample ID:		79972	4	
Level (low/	med):	LOW		Date Received:		07/01	/09	
% Solids:	0.0							
		- Concentration U	nits (ug/L or m	g/kg dry weight):		UG/L		
		CAS No.	Analyte	Concentration	С	Q	М	]
		7440-70-2	Calcium	93800	<del>                                     </del>		P	_1 _ 
		7439-95-4	Magnesium	21400	<del>i -</del>		P	Ī
		7440-23-5	Sodium	52700	Ī	I ,	P	_
				1650	B	Jan		

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					

### INORGANIC ANALYSES DATA SHEET

								TS40021
		n n n	_ ~ .	20000				1040071
ab Name:		rica Burlingto						KAL462
ab Code:	STLV	Case No.:	KZOO SA	S No.:		EDG No		NALI4 02
trix (soi	l/water):	WATER		Lab Sample ID:	2	79972	5	
vel (low/	med):	LOW		Date Received:		07/01,	/09	
Solids:	0.0							
				. /1		TIC /T		
		Concentration	Units (ug/L or mo	g/kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	96000			P	1
		7439-95-4	Magnesium	22100			P	]
		7440-23-5	Sodium	54300		/	P	_
		7440-09-7	Potassium	1830	B	Ń	P	
Color Be	efore: C	olorless	Clarity Before:	clear	Te	xture	:	
Color Be	efore: C	olorless	Clarity Before:	clear	Te	xture	:	
Color Be			Clarity Before: Clarity After:	clear	•	xture		
	fter: C		_		•			

### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

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10022	

								1540022
Lab Name:	TestAmer	rica Burlington	n Conti	eact: 29000				
Lab Code:	STLV	Case No.:	KZOO S	AS No.:		SDG No	·.:	KAL462
Matrix (so	il/water):	WATER		Lab Sample ID:		79972	6	
Level (low,	/med):	LOW		Date Received:		07/01	/09	
% Solids:	0.0	_						
		Concentration 1	Jnits (ug/L or m	ng/kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	99600			P	<u>'</u>
		7439-95-4	Magnesium	25700			P	1

46300

2220 B

M

Sodium

Potassium

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
				MARANA AND AND AND AND AND AND AND AND AND	

### INORGANIC ANALYSES DATA SHEET

							E	EPA SAMPLE NO.
								TS40023
Lab Name:	TestAmer	ica Burlington	Contrac	st: <u>29000</u>				
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	. :	KAL462
Matrix (soi	1/water):	WATER	and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t	Lab Sample ID:		799727	7	
Level (low/	med):	LOW		Date Received:		07/01/	/09	
% Solids:	0.0	-						
		Concentration Ur	nits (ug/L or mg/	/kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	193000			P	<u>.</u> 
		7439-95-4	Magnesium	27000	Ì	Ì	P	<u>.</u> 
		7440-23-5	Sodium	48500	l		P	
		7440-09-7	Potassium	1620	В	]M	P	Ī
								-

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					

### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

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						- 1		TS40024
Lab Name:	TestAmer	ica Burlington	n Cont	ract: <u>29000</u>		<b>!</b>		
Lab Code:	STLV	Case No.:	<u>KZ00</u> 8	SAS No.:		SDG No	·.:	KAL462
Matrix (soil	./water):	WATER		Lab Sample ID:		79972	8	
Level (low/m	ned) :	LOW		Date Received:		07/01	/09	
% Solids:	0.0	_						
		Concentration	Units (ug/L or	mg/kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	168000		l	P	j
		7439-95-4	Magnesium	35400	1	1	P	1

51000

3140 B N

Sodium

Potassium

7440-23-5

7440-09-7

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

### INORGANIC ANALYSES DATA SHEET

Contract:

TestAmerica Burlington

Lab Name:

29000

Lab Code: ST	'LV	Case No.	: <u>KZOO</u>	SAS No.:		SDG No	.:	KAL462	
Matrix (soil/w	ater):	WATER		Lab Sample ID:		799729	9		
Level (low/med		LOW		Date Received:		07/01,			
% Solids: $0$ .	. 0	<del>-</del>							
		Concentration	Units (ug/L or	r mg/kg dry weight):		UG/L			
		CAS No.	Analyte	Concentration	С	Q	М		
		7440-70-2	Calcium	127000			P		
		7439-95-4	Magnesium	29600			P		
		7440-23-5	Sodium	74000	<u> </u>	<u> </u>	P	<u> </u>	
		7440-09-7	Potassium	2560	В	M	P		
Color Befor	e: co	lorless	Clarity Before	e: clear	- 1	'exture	:		
Color After	:: <u>co</u>	lorless	Clarity After:	: clear	- 7	Artifac	ts:		
Comments:									•
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### INORGANIC ANALYSES DATA SHEET

						TS40026
Lab Name:	TestAme	rica Burlingto	n Conti	ract: 29000		
Lab Code:	STLV	Case No.:	KZOO s	AS No.:	SDG No.:	KAL462
Matrix (soi	.1/water):	WATER		Lab Sample ID:	799840	
Level (low/	med):	LOW		Date Received:	07/02/09	
% Solids:	0.0					
			77m à 10 m - 1 17	mar/lear along the little	UG/L	
		Concentration	Units (ug/L or i	mg/kg dry weight):	06/11	
		CAS No.	Analyte	Concentration	C Q M	
		7440-70-2	Calcium	115000	P	[
		7439-95-4	Magnesium	28900	P	1
		7440-23-5	Sodium	88800	P	<u> </u>
		7440-09-7	Potassium	2290	B   M   B	
Color Be			Clarity Before:	clear	Texture:	
Color Af	fter: C	olorless	Clarity After:	clear	Artifacts:	
Comments	s:					

### INORGANIC ANALYSES DATA SHEET

								TS40027
Lab Name:	TestAmer	ica Burlingto	n Contra	act: 29000				
Lab Code:	STLV	Case No.:	KZOO SA	S No.:		SDG No	·.:	KAL462
Matrix (soil	/water):	WATER		Lab Sample ID:		79984	1	
Level (low/m		LOW		Date Received:		07/02	/09	
% Solids:	0.0							
		- Concentration	Units (ug/L or mo	g/kg dry weight):		UG/L	i	-
		CAS No.	Analyte	Concentration	С	Q	м	
		7440-70-2	Calcium	122000			P	
		7439-95-4	Magnesium	29900			P	
		7440-23-5	Sodium	63500			P	
		7440-09-7	Potassium	2090	В	N	P	
Color Bef	ore: CO	lorless	Clarity Before:	clear	T	exture	:	
Color Bef	ore: co	TOLIESS	CIATITY BEFORE:	Clear	- T	exture	:	
Color Aft	er: co	lorless	Clarity After:	clear	. A	rtifac	ts:	
Comments:								

### INORGANIC ANALYSES DATA SHEET

TS40028	

Lab Name: TestAmer Lab Code: STLV	ica Burlington	Contra	ct: 29000		ــــا		
Lab Code: STLV							
	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL462
Matrix (soil/water):	WATER		Lab Sample ID:		799842	2	
Level (low/med):	LOW		Date Received:		07/02/	/09	
% Solids: 0.0							
	Concentration Ur	nits (ug/L or mg	/kg dry weight):		UG/L	·	·····
	CAS No.	Analyte	Concentration	С	Q	м	
	7440-70-2	Calcium	141000	1		P	1
	7439-95-4	Magnesium	26500			P	]
	7440-23-5	Sodium	59900	1	1 /	P	]
	7440-09-7	Potassium	2170	В	M	P	_
							-

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					P144
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### INORGANIC ANALYSES DATA SHEET

TS	40029	

								TS40029
Lab Name:	TestAmer	cica Burlington	Contrac	et: <u>29000</u>				***************************************
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	o.:	KAL462
Matrix (soi	.l/water):	WATER		Lab Sample ID:		79984	3	
Level (low/	med):	LOW		Date Received:		07/02	/09	
% Solids:	0.0	<del></del>						
		Concentration Un	nits (ug/L or mg,	/kg dry weight):		UG/L	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	160000		İ	P	
		7439-95-4	Magnesium	29200			P	
		7440-23-5	Sodium	58400		<u> </u>	P	İ
		7440-09-7	Potassium	2090	В	M	P	

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

							TS40030
Lab Name:	TestAmerica	a Burlington	·	Contract:	29000	<u> </u>	
Lab Code:	STLV	Case No.:	KZOO	SAS No.:		SDG No.:	KAL462
Matrix (soi	l/water):	WATER		Lab	Sample ID:	799844	
Level (low/	med): LO	W		Dat	e Received:	07/02/09	

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	123000	<del>                                     </del>	<u> </u>	P
7439-95-4	Magnesium	25400	İ		P
7440-23-5	Sodium	56300	İ	,	P
7440-09-7	Potassium	1930	В	M	P

Color Before:	colorless	Clarity Before:	clear	Texture:	Makes
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
-					
<del>-</del>					

### INORGANIC ANALYSES DATA SHEET

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TS40031	

Lab Name:	TestAmer	ica Burlington		Contract:	29000		
Lab Code:	STLV	Case No.:	KZOO	SAS No.:		SDG No.:	KAL462
Matrix (soi	1/water):	WATER		Lab	Sample ID:	799845	
Level (low/	med):	TOM		Dat	e Received:	07/02/09	
% Solids:	0.0	<b>-</b>					
		Concentration Un	its (ug/	'L or mg/kg dr	y weight):	UG/L	

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	124000	1		P
7439-95-4	Magnesium	25700	1	l	P
7440-23-5	Sodium	56600	Ī	1/	P
7440-09-7	Potassium	2170	В	M	P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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### INORGANIC ANALYSES DATA SHEET

 O	
TS40032	2

		1540032
cica Burlington	Contract: 29000	
Case No.: KZOO	SAS No.:	SDG No.: KAL462
WATER	Lab Sample ID:	799846
LOW	Date Received:	07/02/09
_		
Concentration Units (ug/	/L or mg/kg dry weight):	UG/L
	Case No.: KZOO WATER LOW	Case No.: KZOO SAS No.:  WATER Lab Sample ID:

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	129000			P
7439-95-4	Magnesium	34100		1	P
7440-23-5	Sodium	38600	1	ĺ	P
7440-09-7	Potassium	4120	В	W	P

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
<del></del>				

## USEPA-CLP FORMS

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

T	S400	33	

Lab Name:	TestAmer	rica Burlingto	n Contr	eact: 29000			-	****
Lab Code:	STLV	_ Case No.:	KZOO s	AS No.:		SDG N	Io . :	KAL462
Matrix (soi	l/water):	WATER		Lab Sample ID:	:	7999	24	
Level (low/	med):	LOW		Date Received:	:	07/0	3/09	
	0.0							
% Solids:								
% Solids:		Concentration	Units (ug/L or m	ng/kg dry weight):	·	UG/	<u>L</u>	<del></del>
% Solids:		Cas No.	Units (ug/L or r	ng/kg dry weight):	С	UG/	L M	
% Solids:		<u> </u>	<del></del>		С		7	
% Solids:		CAS No.	Analyte	Concentration	C		М	
% Solids:		CAS No.	Analyte Calcium	Concentration 90000	C		M P	

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

### Sample Report Summary

Client Sample No.

TS31003

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799720

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L	1	5.0	386	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	15.7	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	7.1	
							-	

### **Sample Report Summary**

Client Sample No.

TS40017

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799721

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L	1	5,0	749	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	0.50	U
5310	Organic Carbon, Total	07/08/09	BLKT0070809A	mg/L	2	2.0	19.5	
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					2			

### Sample Report Summary

Client Sample No.

TS40018

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799722

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L	1	5.0	438	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	13.7	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	3.2	
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### **Sample Report Summary**

Client Sample No.

TS40019

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799723

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L`	1	5.0	615	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	15.4	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	3.4	
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#### **Sample Report Summary**

Client Sample No.

TS40020

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799724

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L	1	5.0	503	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	11.7	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	2.0	
			·					

### **Sample Report Summary**

Client Sample No.

TS40021

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799725

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKD\$070209A	mg/L	1	5.0	516	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	11.8	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	2.2	
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			:					

### **Sample Report Summary**

Client Sample No.

TS40022

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799726

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKD\$070209A	mg/L	1	5.0	506	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	9.5	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	1.2	
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### Sample Report Summary

Client Sample No.

TS40023

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799727

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	_RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L	1	5.0	921	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	29.4	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	12.3	

### Sample Report Summary

Client Sample No. TS40024

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799728

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L	1	5.0	833	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	13.1	
5310	Organic Carbon, Total	07/02/09	BLKTO070209B	mg/L	1	1.0	5.7	
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#### Sample Report Summary

Client Sample No.

TS40025

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799729

Matrix: WATER

Client: BBLKAL

Date Received: 07/01/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/02/09	BLKDS070209A	mg/L	1	5.0	708	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	16.7	
5310	Organic Carbon, Total	07/02/09	BLKT0070209B	mg/L	1	1.0	2.9	

### Sample Report Summary

Client Sample No.
TS40026

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799840

Matrix: WATER

Client: BBLKAL

Date Received: 07/02/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	704	***************************************
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	9.5	
5310	Organic Carbon, Total	07/07/09	BLKTO070709A	mg/L	1	1.0	1.9	
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#### Sample Report Summary

Client Sample No.

TS40027

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799841

Matrix: WATER

Client: BBLKAL

Date Received: 07/02/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	712	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	13.1	
5310	Organic Carbon, Total	07/07/09	BLKT0070709A	mg/L	1	1.0	3.4	
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							4	

### **Sample Report Summary**

Client Sample No. TS40028

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799842

Matrix: WATER

Client: BBLKAL

Date Received: 07/02/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKD\$070709A	mg/L	1	5.0	671	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	11.8	
5310	Organic Carbon, Total	07/07/09	BLKTO070709A	mg/L	1	1.0	4.6	
							1	

#### Sample Report Summary

Client Sample No.

TS40029

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799843

Matrix: WATER

Client: BBLKAL

Date Received: 07/02/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	765	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	23.0	
5310	Organic Carbon, Total	07/07/09	BLKT0070709A	mg/L	1	1.0	5.9	

#### Sample Report Summary

Client Sample No.

TS40030

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799844

Matrix: WATER

Client: BBLKAL

Date Received: 07/02/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	615	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	19.3	
5310	Organic Carbon, Total	07/07/09	BLKTO070709A	mg/L	1	1.0	5.1	
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## Sample Report Summary

Client Sample No.

TS40031

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799845

Matrix: WATER

Client: BBLKAL

Date Received: 07/02/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	613	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	19.5	
5310	Organic Carbon, Total	07/07/09	BLKT0070709A	mg/L	1	1.0	5.0	
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### Sample Report Summary

Client Sample No.

TS40032

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799846

Matrix: WATER

Client: BBLKAL

Date Received: 07/02/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	653	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	14.1	
5310	Organic Carbon, Total	07/07/09	BLKT0070709A	mg/L	1	1.0	7.1	
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## **Sample Report Summary**

Client Sample No.

TS40033

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799924

Matrix: WATER

Client: BBLKAL

Date Received: 07/03/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	515	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	6.1	
5310	Organic Carbon, Total	07/07/09	BLKTO070709A	mg/L	1	1.0	1.5	
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## **Sample Report Summary**

Client Sample No.
TS31004

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799925

Matrix: WATER

Client: BBLKAL

Date Received: 07/03/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qua
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	407	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	14.1	
5310	Organic Carbon, Total	07/07/09	BLKT0070709A	mg/L	1	1.0	6.2	
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### Sample Report Summary

Client Sample No.

TS31005

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL462

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 799926

Matrix: WATER

Client: BBLKAL

Date Received: 07/03/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	07/07/09	BLKDS070709A	mg/L	1	5.0	395	
2540	Total Suspended Solids	07/06/09	BLKTS070609A	mg/L	0	0.50	13.9	
5310	Organic Carbon, Total	07/07/09	BLKT0070709A	mg/L	1	1.0	6.3	
				å 1 1 1				

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS31003 Lab Sample ID: 500-19848-1 Date Sampled: 06/29/2009 13 Date Received: 07/07/2009 10

1310 1030

Client Matrix: Water

Result/Qualifier Unit MDL RLDilution Analyte Date Analyzed: 07/08/2009 1351 Method: 300.0 B 44 0.46 2.0 10 Chloride mg/L 0.63 2.0 Sulfate 27 mg/L 10 Date Analyzed: 07/10/2009 1053 Method: 310.1 220 5.0 1.0 mg/L 1.1 Alkalinity

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40017 Lab Sample ID: 500-19848-2 Date Sampled: 06/29/2009 1400 Date Received:07/07/2009 1030

Analyte	Result/Qualifie	er Uni	t MDI	_ RL	Dilution
Method: 300.0 Chloride	21 ,	4	Date Analyzed: _ 0.46		1405 10
Method: 300.0 Sulfate	100 /8	and the second	Date Analyzed: 1.3	07/09/2009 4.0	1525 20
Method: 310.1 Alkalinity	460	t mg/	Date Analyzed: 1.1	07/10/2009 5.0	1101 1.0

Job Number: 500-19848-1

Sdg Number: KAL462

Client Sample ID:TS40018 Lab Sample ID: 500-19848-3 Date Sampled: 06/29/2009 1455 Date Received:07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method: 300.0</b> Chloride Sulfate	37 B 87 B	Date mg/L mg/L	Analyzed: 0.46 0.63	07/08/2009 1419 2.0 2.0	10 10
Method: 310.1 Alkalinity	230	Date mg/L	Analyzed: 1.1	07/10/2009 1109 5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40019 Lab Sample ID: 500-19848-4 Date Sampled: 06/29/2009 1535
Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0	20		Analyzed:		40
Sulfate	83 /B	mg/L	0.63	2.0	10
Method: 300.0		Date	Analyzed:	07/09/2009 1539	
Chloride	110	mg/L	0.92	4.0	20
Method: 310.1		Date	Analyzed:	07/10/2009 1116	
Alkalinity	290	mg/L	1.1	5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40020 Lab Sample ID: 500-19848-5 Date Sampled: 06/30/2009 1000 Date Received:07/07/2009 1030

Analyte		Result/Qualifi	er	Unit	MDL	RL		Dilution
Method: Sulfate	300.0	38	<b>B</b> -/	Date mg/L	Analyzed: 0.63	07/08/2009	1517	10
<b>Method:</b> Chloride	300.0	91		Date mg/L	Analyzed: 0.92	07/09/2009 4.0	1553	20
<b>Method:</b> Alkalinity	310.1	260		Date mg/L	Analyzed: 1.1	07/10/2009 5.0	1124	1.0

Job Number: 500-19848-1

Sdg Number: KAL462

Client Sample ID:TS40021 Lab Sample ID: 500-19848-6 Date Sampled: 06/30/2009

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Date Received:07/07/2009

1030

Analyte	Result/Qualifier	Unit	MDL	. RL	Dilution
Method: 300.0 Sulfate	39 B	Date mg/L	Analyzed: 0.63	07/08/2009 1531 2.0	10
Method: 300.0 Chloride	92	Date mg/L	Analyzed: 0.92	07/09/2009 1636 4.0	20
Method: 310.1 Alkalinity	260	Date mg/L	Analyzed: 1.1	07/10/2009 1131 5.0	1.0

Client Sample ID:TS40022

Lab Sample ID: 500-19848-7

Job Number: 500-19848-1 Sdg Number: KAL462

Date Sampled: 06/30/2009 1040

Date Received:07/07/2009

1030

Analyte		Result/Qualifier	Unit	MDL	RL		Dilution
Method: Sulfate	300.0	35 B	Date mg/L	Analyzed: 0.63	07/08/2009 2.0	1545	10
Method: Chloride	300.0	96	Date mg/L	Analyzed: 0.92	07/09/2009 4.0	1651	20
Method: Alkalinity	310.1	280	Date mg/L	Analyzed: 1.1	07/10/2009 5.0	1153	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40023 Lab Sample ID: 500-19848-8

Date Sampled: 06/30/2009 1155 Date Received:07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0	89	Date	Analyzed:	07/09/2009 170	05
Chloride		mg/L	0.92	4.0	20
Method: 300.0	170	Date	Analyzed:	07/10/2009 12°	13
Sulfate		mg/L	1.3	4.0	20
Method: 310.1	370	Date	Analyzed:	07/10/2009 120	)1
Alkalinity		mg/L	1.1	5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40024 Lab Sample ID: 500-19848-9 Date Sampled: 06/30/2009 1410
Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride	80	Date mg/L	Analyzed: 0.92	07/09/2009 1719 4.0	20
Method: 300.0 Sulfate	170	Date mg/L	Analyzed: 6.3	07/10/2009 1228 <sup>-</sup> 20	100
Method: 310.1 Alkalinity	350	Date mg/L	Analyzed: 1.1	07/10/2009 1208 5.0	1.0

Client Sample ID:TS40025

Lab Sample ID: 500-19848-10

500-19848-1 Job Number: Sdg Number: KAL462

Date Sampled: 06/30/2009 1400

Date Received:07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Sulfate	57 B	Date mg/L	Analyzed: 0.63	07/08/2009 1614 2.0	10
Method: 300.0 Chloride	140	Date mg/L	Analyzed: 0.92	07/09/2009 1802 4.0	20
Method: 310.1 Alkalinity	360	Date mg/L	Analyzed: 1.1	07/10/2009 1224 5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40026 Lab Sample ID: 500-19848-11 Date Sampled: 07/01/2009 1025 Date Received: 07/07/2009 1030

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method: Sulfate	300.0	73 B	Date mg/L	Analyzed: 0.63	07/08/2009 1628 2.0	10
Method: Chloride	300.0	170	Date mg/L	Analyzed: 4.6	07/10/2009 1311 20	100
Method: Alkalinity		290	Date mg/L	Analyzed: 1.1	07/10/2009 1232 5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40027 Lab Sample ID: 500-19848-12 Date Sampled: 07/01/2009 1045
Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Sulfate	89 <b>/</b> B	Date mg/L	Analyzed: 0.63	07/08/2009 1643 2.0	10
Method: 300.0 Chloride	120	Date mg/L	Analyzed: 0.92	07/09/2009 1831 4.0	20
Method: 310.1 Alkalinity	320	Date mg/L	Analyzed: 1.1	07/10/2009 1239 5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40028 Lab Sample ID: 500-19848-13 Date Sampled: 07/01/2009 1230
Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0	99 B	Date	Analyzed:	07/08/2009 168	57
Sulfate		mg/L	0.63	2.0	10
Method: 300.0	110	Date	Analyzed:	07/09/2009 184	45
Chloride		mg/L	0.92	4.0	20
Method: 310.1	340	Date	Analyzed:	07/10/2009 124	48
Alkalinity		mg/L	1.1	5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40029 Lab Sample ID: 500-19848-14 Date Sampled: 07/01/2009 1230 Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	ŔL		Dilution
Method: 300.0 Chloride	110	Date mg/L	Analyzed: 0.92	07/09/2009 4.0	1928	20
Method: 300.0 Sulfate	140	Date mg/L	Analyzed: 1.3	07/10/2009 4.0	1353	20
Method: 310.1 Alkalinity	350	Date mg/L	Analyzed: 1.1	07/10/2009 5.0	1256	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40030 Lab Sample ID: 500-19848-15 Date Sampled: 07/01/2009
Date Received: 07/07/2009

1355 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride	110	Date mg/L	Analyzed: 0.92	07/09/2009 1942 4.0	20
Method: 300.0 Sulfate	94	Date mg/L	Analyzed: 1.3	07/10/2009 1408 4.0	20
Method: 310.1 Alkalinity	300	Date mg/L	Analyzed: 1.1	07/10/2009 1303 5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40031 Lab Sample ID: 500-19848-16 Date Sampled: 07/01/2009 0000
Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride	100	Date mg/L	Analyzed: 0.92	07/09/2009 1957 4.0	20
Method: 300.0 Sulfate	96	Date mg/L	Analyzed: 1.3	07/10/2009 1422 4.0	20
Method: 310.1 Alkalinity	300	Date mg/L	Analyzed: 1.1	07/10/2009 1324 5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40032 Lab Sample ID: 500-19848-17 Date Sampled: 07/01/2009 1510
Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride	59	Date mg/L	Analyzed: 0.92	07/09/2009 2011 4.0	20
Method: 300.0 Sulfate	150	Date mg/L	Analyzed: 1.3	07/10/2009 1436 4.0	20
Method: 310.1 Alkalinity	320	Date mg/L	Analyzed: 1.1	07/10/2009 1332 5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS40033 Lab Sample ID: 500-19848-18 Date Sampled: 07/02/2009 0955
Date Received: 07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride	120	Date mg/L	Analyzed: 0.92	07/09/2009 2025 4.0	20
Method: 300.0	120			07/10/2009 1451	20
Sulfate	26	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	07/10/2009 1339	
Alkalinity	250	mg/L	1.1	5.0	1.0

Job Number: 500-19848-1 Sdg Number: KAL462

Client Sample ID:TS31004 Lab Sample ID: 500-19848-19 Date Sampled: 07/02/2009

1030 1030

Date Received:07/07/2009

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	07/10/2009 1505	
Chloride	51	mg/L	0.92	4.0	20
Sulfate	29	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	07/10/2009 1401	
Alkalinity	240	mg/L	1.1	5.0	1.0

Job Number: 500-19848-1

Sdg Number: KAL462

Client Sample ID:TS31005 Lab Sample ID: 500-19848-20 Date Sampled: 07/02/2009

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Date Received:07/07/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride	51	Date mg/L	Analyzed: 0.92	07/09/2009 2040 4.0	20
Method: 300.0 Sulfate	28	Date mg/L	Analyzed: 1.3	07/10/2009 1548 4.0	20
Method: 310.1 Alkalinity	250	Date mg/L	Analyzed: 1.1	07/10/2009 1417 5.0	1.0



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## **CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM**

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EACHRITSK  Address:  So W Monroe ST  City State Zip  CHICAGO IL (COCCO 3  Project Name/Location (City, State):  PLANNEW GW SAMPLING  Sampler's Printed Name:  MICHARL KOHACEN	Fax: 312-332 443  E-mail Address:	Н	# of Containers Container Information	2 2	2   	3 3	9	│ │ 3 METH	3   		C. HNO <sub>3</sub> 3. 250 ml Plastic D. NaOH 4. 500 ml Plastic E. None 5. Encore F. Other: 6. 2 oz. Glass	
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Specify Turnaround Requirements:	Sample Receipt:	Firm				Firm/Courier:			Firm/Courier:		Firm:	
STANDARD Shipping Tracking #:	Condition/Cooler Temp:	Date		1200	$\overline{}$	Date/Time:			Date/Time:		Date/Time: 7/03/01 - 1040	7—
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## **CHAIN OF CUSTODY & LABORATORY** ANALYSIS REQUEST FORM

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Lab Work Orde	er#	
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Contact & Company Name:	Telephone:				Preservative	E	A	E	E	E	C		reservation Key:	Keys Container Information Key:
ERIC HRITSUK	312	332	4937	x 24	Filtered (√)							A	. H,SO,	1. 40 ml Vial 2. 1 L Amber
Address:	Fax:				# of Container	2	Z	1	t	l l	ł	C	. HČL . HNO <sub>3</sub>	3. 250 ml Plastic
ERIC HRITSUK  Address:  30 W Monroe ST  City State Zip	312	332	4434		Container Information	2	i	3	9	_3_	3	ΕΕ	. NaOH . None	4. 500 ml Plastic 5. Encore
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## **CHAIN OF CUSTODY & LABORATORY** ANALYSIS REQUEST FORM

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Lab Work Order #

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1 % 3 % 1	1	337	4937	×ЭH	Filtered (✓)	1	-					Preservation Key: Container Information Key: A. H.SO. 1. 40 ml Vial B. HCL 2. 1 L Amber
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TS40020		1000	V	W	X	X	<u>X</u>	X	X	X		
T540021	6/30/09		V	W	X	X	$X_{-}$	X	X	X		
TS40022	6/30/09	1040	<b>V</b>	W	X	X	X	X	X	X		
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# Kalamazoo River Superfund Site Former Plainwell Impoundment Groundwater Sampling

## **Data Review**

PLAINWELL, MICHIGAN

PCB, Metals and Miscellaneous Analyses

SDG# KAL481

Analyses Performed By: TestAmerica Laboratories Burlington, Vermont

Report: # 10982R Review Level: Tier III

Project: B0064539.0000.00500

#### SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #KAL481 for samples collected in association with the Plainwell site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

			Sample	Parent	Analysis				
Sample ID	Lab ID	Matrix	Collection Date	Sample	voc	svoc	РСВ	MET	MISC
TS40034	807163	Water	9/21/2009				Χ	Х	Х
TS40035	807164	Water	9/21/2009				Χ	Х	Х
TS40036	807165	Water	9/21/2009				Х	Х	Х
TS40037	807166	Water	9/21/2009				Χ	Х	Х
TS40038	807167	Water	9/21/2009				Χ	Х	Х
TS40039	807168	Water	9/21/2009				Χ	Х	Х
TS40040	807169	Water	9/21/2009				Χ	Х	Х
TS40041	807170	Water	9/21/2009				Χ	Х	Х
TS40042	807171	Water	9/21/2009				Χ	Х	Х
TS31006	807172	Water	9/21/2009				Χ	Х	Х
TS40043	807422	Water	9/23/2009				Χ	Х	Х
TS40044	807423	Water	9/23/2009				Χ	Х	Х
TS40045	807424	Water	9/23/2009	TS40044			Χ	Х	Х
TS40046	807425	Water	9/23/2009				Χ	Х	Х
TS40047	807426	Water	9/23/2009	TS40046			Χ	Х	Х
TS40048	807427	Water	9/23/2009				Χ	Χ	Х
TS40049	807644	Water	9/24/2009				Χ	Х	Х
TS40050	807645	Water	9/24/2009				Χ	Х	Х
TS31007	807646	Water	9/24/2009				Χ	Х	Х
TS31008	807647	Water	9/24/2009	TS31007			Χ	Х	Х

#### Note:

- 1. Miscellaneous parameters include total organic carbon (TOC), total suspended solids (TSS), total dissolved solids (TDS), chloride, sulfate, and alkalinity.
- Matrix spike/matrix spike duplicate/laboratory duplicate was performed on sample locations TS31006 and TS40043.

## **ANALYTICAL DATA PACKAGE DOCUMENTATION**

The table below is the evaluation of the data package completeness.

			Reported		mance ptable	Not
	Items Reviewed	No	Yes	No	Yes	Required
1.	Sample receipt condition		Х		Х	
2.	Requested analyses and sample results		Х		Х	
3.	Master tracking list		Х		Х	
4.	Methods of analysis		Х		Х	
5.	Reporting limits		Х		Х	
6.	Sample collection date		Х		Х	
7.	Laboratory sample received date		Х		Х	
8.	Sample preservation verification (as applicable)		Х		Х	
9.	Sample preparation/extraction/analysis dates		Х		Х	
10.	Fully executed Chain-of-Custody (COC) form		Х		Х	
11.	Narrative summary of QA or sample problems provided		Х		Х	
12.	Data Package Completeness and Compliance		Х		Х	_

QA - Quality Assurance

#### ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to (United Stated Environmental Protection Agency) USEPA Method 8082. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999 and USEPA Region II (SOP HW-45, Revision 1).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - UB Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

The data presented in this package has been derived using a procedure developed by TestAmerica as an attempt to improve the analytical process of calibration, identification and quantitation of PCBs as Aroclors. Key components of this procedure include:

#### Calibration

The response function of the electron capture detector is inherently non-linear. While significant linearization is achieved for this detector by electronic means, some non-linearity remains. Power function linearization is used to straighten the curve and allow the use of response factors for calibration purposes.

During the initial calibration, a response factor is calculated for each peak in the individual Aroclors. A weighted response factor calculation has been used to adjust for non-linearity at the low end of the calibration curve.

#### Identification

Peak retention times are relative. Retention times are in set windows relative to the time markers DCB and TCX. Time markers adjust for minor variations in column flow or instrument condition and allow the use of very tight windows which minimizes the number of false positive and false negative peak identifications.

The determination of which Aroclor or mixture of Aroclors will produce a chromatogram most similar to that of the residue is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors. This is similar to the procedure presented by L.E. Silvon, P.M. Schumacher and A. Alford-Stevens for the determination of Aroclor composition from GC/MS level of chlorination results.

Identification/quantitation of Aroclors in samples is based on the combined response of two columns, typically RTX-5 and RTX-35. The pooling of response combines the unique qualities of both columns to derive a more defined Aroclor pattern which is less likely to be affected by interferents. Identification/quantitation data for the individual columns is provided in the package and can be used as a check on the combined column results.

## POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

#### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8082	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C
377-040 0002	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cooled @ 4 °C

All samples were analyzed within the specified holding time criteria.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

#### 3. System Performance

System performance and column resolution were acceptable.

#### 4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

#### 4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for all Aroclors.

## 4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All Aroclors associated with calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Sample Locations	Initial/Continuing	Compound	Criteria
TS31007 TS31008	CCV %D	Aroclor 1248	18.0%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 20%or a correlation coefficient <0.99	Non-detect	UJ
miliai Calibration	76KSD > 20%01 a correlation coefficient <0.99	Detect	J
Continuing Calibration	%D >15% (increase in sensitivity)	Non-detect	No Action
	(Increase in sensitivity)	Detect	J
	0/D = 150/ (degrees in consistivity)	Non-detect	UJ
	%D >15% (decrease in sensitivity)	Detect	J

#### 5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires the surrogate compounds must exhibited recoveries within the method established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

#### 6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the method established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the method established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

## 7. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the method established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

#### 8. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
TS40044/ TS40045	All Aroclors	0.047 U	0.048 U	AC
TS40046/ TS40047	All Aroclors	0.048 U	0.047 U	AC
TS31007/ TS31008	All Aroclors	0.051 U	0.050 U	AC

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 9. Compound Identification

The determination of Aroclor presence is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors.

All identified compounds met the specified criteria.

#### 10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

## **DATA VALIDATION CHECKLIST FOR PCBs**

PCBs; SW846 8082	Repo	orted		rmance eptable	Not
	No	Yes	No	Yes	Required
GAS CHROMATOGRAPHY (GC/FID)					
Tier II Validation					
Holding times		Х		X	
Reporting limits (units)		Х		X	
Blanks					
A. Method blanks		Х		Х	
B. Field blanks		Х		Х	
Laboratory Control Sample (LCS) %R		Х		Х	
Laboratory Control Sample Duplicate(LCSD) %R					Х
LCS/LCSD Precision (RPD)					Х
Matrix Spike (MS) %R		Х		Х	
Matrix Spike Duplicate(MSD) %R		Х		Х	
MS/MSD Precision (RPD)		Х		Х	
Field Duplicate (RPD)		Х		Х	
Surrogate Spike Recoveries		Х		Х	
Dilution Factor		Х		Х	
Moisture Content		Х		Х	
Tier III Validation					
Initial calibration %RSDs		Х		Х	
Continuing calibration %Ds		Х	Х		
System performance and column resolution		Х		Х	
Compound identification and quantitation					
A. Quantitation Reports		Х		Х	
B. RT of sample compounds within the established RT windows		Х		Х	
C. Pattern identification		X		Χ	
D. Transcription/calculation errors present				Х	
E. Reporting limits adjusted to reflect sample dilutions		X RDD role		X nt difference	

<sup>%</sup>RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

#### INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Methods 6010B, 9060, 300.0, 310.1 and SM2540. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
  - B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).
- Quantitation (Q) Qualifiers
  - E The reported value is estimated due to the presence of interference.
  - N Spiked sample recovery is not within control limits.
  - Duplicate analysis is not within control limits.
- Validation Qualifiers
  - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
  - UB Analyte considered non-detect at the listed value due to associated blank contamination.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

#### **METALS ANALYSES**

#### 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
SW-846 6010B	Soil	180 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding times.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the instrument detection limit (IDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL. No qualification of the sample results was required.

#### 3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

#### 3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

#### 3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard

analysis are presented below in the CRDL standards evaluation table.

All CRDL standard recoveries were within control limits.

#### 3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

### 4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

#### 4.1 MS Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS analysis performed on sample locations TS31006 and TS400431 exhibited recoveries within the control limits.

#### 4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited RPD within the control limit.

### 5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
TS40044/ TS40045	Calcium	105000	103000	1.9 %
	Magnesium	24900	24500	1.6 %
1340044/ 1340043	Potsassium	2020 B	2060 B	AC
	Sodium	53800	53200	1.1 %
TS40046/ TS40047	Calcium	160000	159000	0.6 %

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Magnesium	22900	22900	0 %
	Potsassium	1350 B	1310 B	AC
	Sodium	58300	58300	0 %
	Calcium	78400	77300	1.4 %
TS31007/ TS31008	Magnesium	24900	24600	1.2 %
1531007/ 1531006	Potsassium	2810 B	2710 B	AC
	Sodium	36000	35600	1.1 %

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

#### 6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

#### 7. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution performed on sample location TS31006 exhibited a %D within the control limit.

A serial dilution was also performed on sample location Ts40043. All serial dilutions were within control limits, with the exception of the analytes presented in the following table.

Sample Locations	Analytes	Serial Dilution (%D)
	Calcium	10.3%
TS40043	Magnesium	11.9%
	Sodium	11.4%

The criteria used to evaluate the serial dilution are presented in the following table. In the case of a serial dilution deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
> UL	Detect	J

### 8. Furnace Analysis QC

No furnace analyses were performed on the samples.

## 9. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

## 10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

## **DATA VALIDATION CHECKLIST FOR METAL**

METALS; SW-846 6000/7000	Repo	orted		rmance ptable	Not
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	No	Yes	No	Yes	Required
Inductively Coupled Plasma-Atomic Emission Spec	trometry	(ICP)			
Atomic Absorption – Manual Cold Vapor (CV)					
Tier II Validation					
Holding Times		Х		Х	
Reporting limits (units)		Х		Х	
Blanks					
A. Instrument Blanks		X		Х	
B. Method Blanks		X		X	
C. Equipment/Field Blanks		Х		Х	
Laboratory Control Sample (LCS)		Χ		Х	
Matrix Spike (MS) %R		Х		Х	
Matrix Spike Duplicate (MSD) %R		Х		Х	
MS/MSD Precision (RPD)		Х		Х	
Field/Lab Duplicate (RPD)		Х		Х	
ICP Serial Dilution		Х	X		
Reporting Limit Verification		Х		Х	
Raw Data		Х		Х	
Tier III Validation					
Initial Calibration Verification		Х		Х	
Continuing Calibration Verification		Х		Х	
CRDL Standard		Х		Х	
ICP Interference Check		Х		Х	
Transcription/calculation errors present		Х		Х	
Reporting limits adjusted to reflect sample dilutions		Х		Х	

%R Percent recovery
RPD Relative percent difference

#### **GENERAL CHEMISTRY ANALYSES**

## 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Total Organic Carbon by EPA 9060	Water	28 days from collection to analysis	Cooled @ 4 °C; preserved to a pH of less than 2.
Total Dissolved Solids By EPA 160.1	Water	7 days from collection to analysis	Cooled @ 4 °C.
Total Suspended Solids By EPA 160.2	Water	7 days from collection to analysis	Cooled @ 4 °C.
Chloride by EPA 300.0	Water	28 days from collection to analysis	Cooled @ 4 °C.
Sulfate by EPA 300.0	Water	28 days from collection to analysis	Cooled @ 4 °C.
Alkalinity by EPA 310.1	Water	14 days from collection to analysis	Cooled @ 4 °C.

All samples were analyzed within the specified holding time criteria.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL. No qualification of the sample results was required.

#### 3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within control limits.

All calibration standard recoveries were within the control limit.

#### 4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

#### 4.1 MS Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory qualifier "N" will be removed.

The MS analysis performed on sample locations TS31006, TS40043, and TS31008 exhibited recoveries within the control limits.

#### 4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

The laboratory duplicate sample results exhibited a RPD within the control limit.

#### 5. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	TOC	3.7	4.1	AC
	TDS	535	528	1.3%
TS40044/TS40045	TSS	13.5	13.5	0%
TS40044/ TS40045	Chloride	82	83	1.2%
	Sulfate	62	63	1.6%
	Alkalinity	270	280	3.6%
	TOC	12.2	11.9	2.4%
TS40046/ TS40047	TDS	754	754	0%
1040040/104004/	TSS	19.8	20.8	4.4%

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Chloride	110	110	0%
	Sulfate	140	140	0%
	Alkalinity	310	310	0%
	TOC	4.0	4.2	AC
	TDS	396	407	0.2%
TS31007/ TS31008	TSS	4.6	4.5	2.1%
1531007/ 1531006	Chloride	66	61	7.8%
	Sulfate	35	32	8.9%
	Alkalinity	230	230	0%

AC Acceptable U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

### 6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

### 7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

## DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: EPA Lloyd Kahn	Rep	orted		mance ptable	Not Required	
	No	Yes	No	Yes	Kequireu	
Miscellaneous Instrumentation						
Tier II Validation						
Holding times		Х		Х		
Reporting limits (units)		Х		Х		
Blanks			•			
A. Method blanks		Х		Х		
B. Field blanks		Х		Х		
Laboratory Control Sample (LCS) %R		Х		Х		
Laboratory Control Sample Duplicate(LCSD) %R					Х	
LCS/LCSD Precision (RPD)					Х	
Matrix Spike (MS) %R		Х		Х		
Matrix Spike Duplicate(MSD) %R					Х	
MS/MSD Precision (RPD)					Х	
Lab/Field Duplicate (RPD)		Х		Х		
Dilution Factor		Х		Х		
Moisture Content		Х		Х		
Tier III Validation						
Initial calibration %RSD or correlation coefficient		Х		Х		
Continuing calibration %R		Х		Х		
Raw Data		Х		Х		
Transcription/calculation errors present				Х		
Reporting limits adjusted to reflect sample dilutions		X		X		

<sup>%</sup>RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference,

<sup>%</sup>D – difference

VALIDATION PERFORMED

BY: Jeffrey L. Davin

SIGNATURE:

DATE: October 26, 2009

PEER REVIEW: Dennis Capria

DATE: November 6, 2009

# CHAIN OF CUSTODY/ CORRECTED SAMPLE ANALYSIS DATA SHEETS

				1	TS40034
Lab Name: _	TestAmerica Burlin	gton	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807163	
Phase Weight:	1020.	(mL)	Date Received:	09/23/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/24/09	
Dilution Factor:	1.0		Date Analyzed:	10/06/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.049	U
11104-28-2	Aroclor-1221	0.049	U
11141-16-5	Aroclor-1232	0.049	U
53469-21-9	Aroclor-1242	0.049	U
12672-29-6	Aroclor-1248	0.049	U
11097-69-1	Aroclor-1254	0.049	U
11096-82-5	Aroclor-1260	0.049	U

**EPA SAMPLE NO.** 

TS40035 Lab Name: TestAmerica Burlington Lab Code: \_ Contract: 27000 KZOO KAL481 Case: SDG: WATER 807164 Phase Type: Lab Sample ID: (mL) Phase Weight: 09/23/09 Date Received: 1.0 09/24/09 Injection Volume: (uL) Date Extracted: Dilution Factor: \_\_\_\_\_1.0 10/06/09 Date Analyzed: % Solids: Sulfur Clean-up: Ν (Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.052	υ
11104-28-2	Aroclor-1221	0.052	U
11141-16-5	Aroclor-1232	0.052	U
53469-21-9	Aroclor-1242	0.052	U
12672-29-6	Aroclor-1248	0.052	U
11097-69-1	Aroclor-1254	0.052	U
11096-82-5	Aroclor-1260	0.052	U

				Т	S40036
Lab Name: _	TestAmerica Bu	rlington	Lab Code:STLV		
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807165	
Phase Weight:	1035.	(mL)	Date Received:	09/23/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/24/09	
Dilution Factor:	1.0		Date Analyzed:	10/06/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER	
12674-11-2	Aroclor-1016	0.048	U	
11104-28-2	Aroclor-1221	0.048	U	
11141-16-5	Aroclor-1232	0.048	U	
53469-21-9	Aroclor-1242	0.048	U	
12672-29-6	Aroclor-1248	0.048	U	
11097-69-1	Aroclor-1254	0.048	U	
11096-82-5	Aroclor-1260	0.048	U	

				TS4	10037
Lab Name:	TestAmerica Burlin	gton	Lab Code: STLV		
Contract: _	27000	_	Case: KZOO	SDG:	KAL481
Phase Type: _	WATER		Lab Sample ID:	807166	
Phase Weight:	1035.	(mL)	Date Received:	09/23/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/24/09	
Dilution Factor:	1.0	_	Date Analyzed: _	10/06/09	·····
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER	
12674-11-2	Aroclor-1016	0.048	U	
11104-28-2	Aroclor-1221	0.048	U	
11141-16-5	Aroclor-1232	0.048	U	
53469-21-9	Aroclor-1242	0.048	U	
12672-29-6	Aroclor-1248	0.048	U	
11097-69-1	Aroclor-1254	0.048	U	
11096-82-5	Aroclor-1260	0.048	U	

				Т	S40038
Lab Name: _	TestAmerica Bur	lington	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807167	
Phase Weight:	1055.	(mL)	Date Received:	09/23/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/24/09	
Dilution Factor:	1.0		Date Analyzed:	10/06/09	- 10704
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

					1	r\$40039	
Lab Name: _	TestAmerica Burling	ton	Lab Code:	STLV			
Contract:	27000	_	Case: _	KZOO	SDG:	KAL481	
Phase Type:	WATER	_	La	b Sample ID:	807168		
Phase Weight:	1005.	(mL)	Da	te Received:	09/23/09		
Injection Volume:	1.0	(uL)	Da	te Extracted:	09/24/09		
Dilution Factor:	1.0	nera	Da	ate Analyzed:	10/06/09		
% Solids:			Sulf	fur Clean-up:	N		(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER	
12674-11-2	Aroclor-1016	0.050	U	
11104-28-2	Aroclor-1221	0.050	U	
11141-16-5	Aroclor-1232	0.050	U	
53469-21-9	Aroclor-1242	0.050	U	
12672-29-6	Aroclor-1248	0.050	U	
11097-69-1	Aroclor-1254	0.050	U	
11096-82-5	Aroclor-1260	0.050	U	

					т	S40040	
Lab Name: _	TestAmerica Burlingt	on	Lab Code:	STLV			
Contract:	27000	-	Case: _	KZ00	SDG:	KAL481	
Phase Type:	WATER	-	La	b Sample ID:	807169		
Phase Weight:	1035.	(mL)	Da	te Received:	09/23/09		
Injection Volume:	1.0	_ (uL)	Da	te Extracted:	09/24/09		
Dilution Factor:	1.0		Da	ate Analyzed:	10/06/09		
% Solids:		_	Sul	fur Clean-up:	N	(	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

					TS40041
Lab Name: _	TestAmerica Burlin	gton	Lab Code:STLV		
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807170	
Phase Weight:	1045.	(mL)	Date Received:	09/23/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/24/09	
Dilution Factor:	1.0	<del></del>	Date Analyzed:	10/06/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	Ü
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

				T2	240042
Lab Name: _	TestAmerica Burl	ington	Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807171	
Phase Weight:	1055.	(mL)	Date Received:	09/23/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/24/09	
Dilution Factor:	1.0		Date Analyzed:	10/06/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	T U

EPA SAMPLE NO.

(Y/N)

Sulfur Clean-up: N

					TS31006	
Lab Name: _	: TestAmerica Burlington		Lab Code:STLV			
Contract:	27000		Case: KZOO	SDG:	KAL481	
Phase Type:	WATER		Lab Sample ID:	807172		
Phase Weight:	1045.	(mL)	Date Received:	09/23/09		
Injection Volume:	1.0	(uL)	Date Extracted:	09/24/09		
Dilution Factor:	1.0		Date Analyzed:	10/06/09		

% Solids:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	Ū
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	υ

Lab Name	TestAmerica Burlington					TS40043	
Lab Name: _	restamenca burn	ngton	Lab Code: _	STLV			
Contract:	27000		Case:	KZ00	SDG:	KAL481	
Phase Type:	WATER		Lat	o Sample ID:	807422		
Phase Weight:	1040.	(mL)	Da	te Received:	09/24/09		
Injection Volume:	1.0	(uL)	Dat	e Extracted:	09/27/09		
Dilution Factor:	1.0		Da	te Analyzed:	10/07/09		
% Solids:			Sulf	ur Clean-up:	N	(Y/N)	

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	- U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	u
11096-82-5	Aroclor-1260	0.048	U

EPA SAMPLE NO.

TS40044 Lab Name: \_\_\_TestAmerica Burlington STLV Lab Code: 27000 Contract: KZOO KAL481 SDG: Case: WATER 807423 Phase Type: Lab Sample ID: 1055. (mL) Phase Weight: 09/24/09 Date Received: 1.0 Injection Volume: (uL) 09/27/09 Date Extracted: Dilution Factor: 1.0 10/07/09 Date Analyzed: % Solids: (Y/N) Sulfur Clean-up:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

				тѕ	40045
Lab Name:TestAmerica Burlington		Lab Code:STLV			
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807424	
Phase Weight:	1040.	(mL)	Date Received:	09/24/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/27/09	<del></del>
Dilution Factor:	1.0	AAA	Date Analyzed:	10/07/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	υ
12672-29-6	Aroclor-1248	0.048	U
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

				TS40046		
Lab Name: _	TestAmerica Burl	ington	Lab Code: STLV			
Contract:	27000		Case: KZOO	SDG:	KAL481	
Phase Type:	WATER		Lab Sample ID:	807425		
Phase Weight:	1045.	(mL)	Date Received:	09/24/09		
Injection Volume:	1.0	(uL)	Date Extracted:	09/27/09	· · · · · · · · · · · · · · · · · · ·	
Dilution Factor:	1.0	-	Date Analyzed:	10/07/09		
% Solids:			Sulfur Clean-up:	N	(Y/N)	

CAS NO.	COMPOUND	CONCENTRATION	QUALIFIER
		ug/L	
12674-11-2	Aroclor-1016	0.048	U
11104-28-2	Aroclor-1221	0.048	U
11141-16-5	Aroclor-1232	0.048	U
53469-21-9	Aroclor-1242	0.048	U
12672-29-6	Aroclor-1248	0.048	υ
11097-69-1	Aroclor-1254	0.048	U
11096-82-5	Aroclor-1260	0.048	U

Lab Name:	TestAmerica Burlir	naton	Lab Code: STLV	TS	540047
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807426	
Phase Weight:	1060.	(mL)	Date Received:	09/24/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/27/09	_
Dilution Factor:	1.0		Date Analyzed:	10/07/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	U

EPA SAMPLE NO.

(Y/N)

						TS40048	
Lab Name: _	TestAmerica Bur	lington	Lab Code:	STLV			
Contract:	27000		Case:	KZOO	SDG: _	KAL481	
Phase Type:	WATER		Lab	Sample ID:	807427		
Phase Weight:	1010.	(mL)	Date	Received: _	09/24/09	)	
Injection Volume:	1.0	(uL)	Date	Extracted:	09/27/09	)	
Dilution Factor:	1.0		Date	e Analyzed:	10/07/09	)	

% Solids:

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Sulfur Clean-up: N

						TS40049	
Lab Name: _	TestAmerica Burlin	ngton	Lab Code:	STLV			
Contract:	27000	<del></del>	Case:	KZOO	SDG:	KAL481	
Phase Type:	WATER	<del></del>	Lai	b Sample ID:	807644		
Phase Weight:	1000.	(mL)	Da	te Received:	09/25/09	1	
Injection Volume:	1.0	(uL)	Da	te Extracted:	09/27/09	)	
Dilution Factor:	1.0		Da	ite Analyzed:	10/07/09	<b>)</b>	
% Solids:			Sulf	ur Clean-un:	N	(	Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

				Т	S40050	
Lab Name: _	TestAmerica Burli	ngton	Lab Code: STLV			
Contract:	27000		Case: KZOO	SDG:	KAL481	
Phase Type:	WATER		Lab Sample ID:	807645		
Phase Weight:	1055.	(mL)	Date Received:	09/25/09		
Injection Volume:	1.0	(uL)	Date Extracted:	09/27/09		
Dilution Factor:	1.0		Date Analyzed:	10/07/09		
% Solids:			Sulfur Clean-up:	N	(	Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.047	U
11104-28-2	Aroclor-1221	0.047	U
11141-16-5	Aroclor-1232	0.047	U
53469-21-9	Aroclor-1242	0.047	U
12672-29-6	Aroclor-1248	0.047	U
11097-69-1	Aroclor-1254	0.047	U
11096-82-5	Aroclor-1260	0.047	υ

				TS31007	
Lab Name: _	TestAmerica Burlington		Lab Code:STLV		
Contract:	27000		Case: KZOO	SDG: K	AL481
Phase Type:	WATER	******	Lab Sample ID:	807646	
Phase Weight:	990.	(mL)	Date Received:	09/25/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/27/09	
Dilution Factor:	1.0		Date Analyzed:	10/07/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.051	U
11104-28-2	Aroclor-1221	0.051	U
11141-16-5	Aroclor-1232	0.051	U
53469-21-9	Aroclor-1242	0.051	U
12672-29-6	Aroclor-1248	0.051	U
11097-69-1	Aroclor-1254	0.051	U
11096-82-5	Aroclor-1260	0.051	U

					TS31008
Lab Name: _	ab Name:TestAmerica Burlington		Lab Code: STLV		
Contract:	27000		Case: KZOO	SDG:	KAL481
Phase Type:	WATER		Lab Sample ID:	807647	
Phase Weight:	1000.	(mL)	Date Received:	09/25/09	
Injection Volume:	1.0	(uL)	Date Extracted:	09/27/09	-
Dilution Factor:	1.0		Date Analyzed:	10/07/09	
% Solids:			Sulfur Clean-up:	N	(Y/N)

CAS NO.	COMPOUND	CONCENTRATION ug/L	QUALIFIER
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

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#### INORGANIC ANALYSES DATA SHEET

Lab Name:	TestAmer	ica Burlington	Contrac	et: <u>29000</u>				
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	. :	KAL481
Matrix (soi	l/water):	WATER		Lab Sample ID:		807171	<u> </u>	
Level (low/	med):	LOW		Date Received:		09/23/	09	· · · · · · · · · · · · · · · · · · ·
% Solids:	0.0	_						
		Concentration Un	nits (ug/L or mg/	kg dry weight):		UG/L		<del>-</del>
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	110000		# J	₽	1
		7439-95-4	Magnesium	26700		足了	P	
		7440-23-5	Sodium	56100		p T	P	
		7440-09-7	Potassium	2660	В		P	

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:			,	
<del>-</del>				

#### INORGANIC ANALYSES DATA SHEET

								TS31006
Lab Name:	TestAmeri	ca Burlington	Contrac	et: <u>29000</u>				
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	. :	KAL481
Matrix (soi	l/water):	WATER		Lab Sample ID:		807172	2	
Level (low/	med):	LOW		Date Received:		09/23/	/09	
% Solids:	0.0							
		Concentration Un	its (ug/L or mg/	/kg dry weight):		UG/L		_
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-70-2	Calcium	76000		E	P	
		7439-95-4	Magnesium	24300		l B	P	j
		7440-23-5	Sodium	36400		<b>p</b> r	P	
		7440-09-7	Potassium	3020	В	<u> </u>	P	

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
-					

### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

									TS31007
Lab Name:	TestAmer	ica Burlingt	on	Contrac	et: 29000				
Lab Code:	STLV	Case No.	.: <u>KZOC</u>	SAS	No.:		SDG No	.:	KAL481
Matrix (soi	L/water):	WATER			Lab Sample ID:		807646	5	
Level (low/r	med):	LOW			Date Received:		09/25/	09	
% Solids:	0.0								
		<del>.</del>							
		Concentration	n Units (	ug/L or mg/	/kg dry weight):		UG/L		_
		CAS No.	A	nalyte	Concentration	С	Q	М	
		7440-70-2	Calc		78400		E o	P	
		7439-95-4		esium	24900		e s	P	
		7440-23-5	Sodi		36000		E J	P	
		7440-09-7	Pota	ssium	2810	В		P	
Color Bef		orless	Clarity	Before:	clear	Τε	exture:		
Color Aft	er: col	orless	Clarity	After:	clear	A	rtifact	s:	

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Comments:

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TS31008		

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ab Name:	TestAmer	ica Burlington	Contr	act: 29000	
Lab Code:	STLV	Case No.:		AS No.:	SDG No.: KAL481
Matrix (soi	1/water):	WATER		Lab Sample ID:	807647
Level (low/		LOW		Date Received:	09/25/09
% Solids:	0.0	-			
		Concentration U	nits (ug/L or m	g/kg dry weight):	UG/L
		CAS No.	Analyte	Concentration	C Q M
		7440-70-2	Calcium	77300	Ė J P
		7439-95-4	Magnesium	24600	E 3   P
		7440-23-5	Sodium	35600	E 3 P
		7440-09-7	Potassium	2710  E	3   P
Color Be	efore: co	lorless C	larity Before:	clear	Texture:
Color Af	ter: co	lorless C	larity After:	clear	Artifacts:
Comments	3:				

#### INORGANIC ANALYSES DATA SHEET

TS40034	

		,					1540054
Lab Name:	TestAmerica	a Burlington		Contract:	29000		
Lab Code:	STLV	Case No.:	KZOO	_ SAS No.:		SDG No.:	KAL481
Matrix (soil	L/water):	WATER		Lab	Sample ID:	807163	***************************************
Level (low/r	$ned): \underline{LO}$	W		Date	Received:	09/23/09	* - (-*
% Solids:	0.0						
	Cor	ncentration Uni	its (ug/L	or mg/kg dry	weight):	UG/L	

CAS No.	Analyte	Concentration	С	Q	м
7440-70-2	Calcium	157000		EJ	P
7439-95-4	Magnesium	34400	1	F - T	P
7440-23-5	Sodium	57500		車で	P
7440-09-7	Potassium	3060	В		P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	Marie Later Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control o
Comments:					

### INORGANIC ANALYSES DATA SHEET

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	TS400	35	

				1040033	
Lab Name:	TestAme	rica Burlington	Contract: <u>29000</u>		
Lab Code:	STLV	Case No.: KZOO	SAS No.:	SDG No.: KAL481	
Matrix (soi	l/water):	WATER	Lab Sample ID:	807164	
Level (low/	med):	LOW	Date Received:	09/23/09	
% Solids:	0.0	<b></b>			
		Concentration Units (ug	g/L or mg/kg dry weight):	UG/L	

CAS No.	Analyte	Concentration	С	Q	м
7440-70-2	Calcium	125000	T	Ė ¬Ţ	l P
7439-95-4	Magnesium	29600	Ī	IE 3	P
7440-23-5	Sodium	74900		BJ	P
7440-09-7	Potassium	2080	В		P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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### INORGANIC ANALYSES DATA SHEET

TS40036	

			15.0030
Lab Name: <u>Tes</u>	tAmerica Burlington	Contract: <u>29000</u>	
Lab Code: STL	V Case No.: KZOO	SAS No.:	SDG No.: KAL481
Matrix (soil/wa	ter): WATER	Lab Sample ID:	807165
Level (low/med)	: LOW	Date Received:	09/23/09
% Solids: 0.0			
	Concentration Units (ug/	L or mg/kg dry weight):	UG/L

CAS No.	Analyte	Concentration	С	Q	м
7440-70-2	Calcium	104000	<del>                                     </del>	E-S	P
7439-95-4	Magnesium	26600	İ	E	P
7440-23-5	Sodium	94100	Ì	it 7	P
7440-09-7	Potassium	2070	В	l	P

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
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#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

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TS40037	

Lab Name: <u>TestAr</u>	merica Burlingto	n Cont	ract: <u>29000</u>				
Lab Code: STLV	Case No.:	<u>KZOO</u> S	AS No.:		SDG N	o.:	KAL481
Matrix (soil/water	): WATER		Lab Sample ID:		80716	56	
Level (low/med):	LOW		Date Received:		09/23	3/09	
% Solids: 0.0							
	Concentration	Units (ug/L or m	ng/kg dry weight):		UG/I		_
	CAS No.	Analyte	Concentration	С	Q	М	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
	7440-70-2	Calcium	127000	<del> </del>	FT	P	.
	7439-95-4	Magnesium	30900		IR J	P	]
	7440-23-5	Sodium	66900	1	B	P	<u></u>

2220 B

Potassium

7440-09-7

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

### INORGANIC ANALYSES DATA SHEET

Lab Name:         TestAmerica Burlington         Contract:         29000           Lab Code:         STLV         Case No.:         KZOO         SAS No.:         SDG No.:         KAL481           Matrix (soil/water):         WATER         Lab Sample ID:         807167           Level (low/med):         LOW         Date Received:         09/23/09           % Solids:         0.0           Concentration Units (ug/L or mg/kg dry weight):         UG/L           CAS No.         Analyte         Concentration         CQ         M           7440-70-2         Calcium         129000         ET         P           7439-95-4         Magnesium         28000         ET         P           7440-23-5         Sodium         67900         ET         P	Lab Code: STLV									TS40038
Matrix (soil/water):         WATER         Lab Sample ID:         807167           Level (low/med):         LOW         Date Received:         09/23/09           % Solids:         0.0             Concentration Units (ug/L or mg/kg dry weight):         UG/L           CAS No.         Analyte         Concentration         C Q M           7440-70-2         Calcium         129000         F J P           7439-95-4         Magnesium         28000         F J P           7440-23-5         Sodium         67900         F J P	Lab Code: STLV       Case No.: M200 BAS No.         MATER       Lab Sample ID: 807167         Level (low/med):       LOW       Date Received: 09/23/09         % Solids:       0.0         Concentration Units (ug/L or mg/kg dry weight): UG/L         CAS No.       Analyte       Concentration       C Q M         7440-70-2       Calcium       129000       F J P         7439-95-4       Magnesium       28000       F J P         7440-23-5       Sodium       67900       F J P	Lab Name:	TestAmer	ica Burlington	Contrac	t: <u>29000</u>				
Level (low/med):   LOW   Date Received:   09/23/09	Level (low/med):   LOW   Date Received:   09/23/09	Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL481
Level (low/med):   LOW   Date Received:   09/23/09	Level (low/med):   LOW   Date Received:   09/23/09	Matrix (soi	.1/water):	WATER		Lab Sample ID:		80716	7	
Concentration Units (ug/L or mg/kg dry weight):         UG/L           CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         129000         F         P           7439-95-4         Magnesium         28000         F         P           7440-23-5         Sodium         67900         F         P	Concentration Units (ug/L or mg/kg dry weight):         UG/L           CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         129000         F         P           7439-95-4         Magnesium         28000         F         P           7440-23-5         Sodium         67900         F         P			LOW		Date Received:		09/23	/09	
CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         129000         F         P           7439-95-4         Magnesium         28000         F         P           7440-23-5         Sodium         67900         F         P	CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         129000         F         P           7439-95-4         Magnesium         28000         F         P           7440-23-5         Sodium         67900         F         P	% Solids:	0.0							
CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         129000         F         P           7439-95-4         Magnesium         28000         F         P           7440-23-5         Sodium         67900         F         P	CAS No.         Analyte         Concentration         C         Q         M           7440-70-2         Calcium         129000         E         P           7439-95-4         Magnesium         28000         E         P           7440-23-5         Sodium         67900         E         P			- Concentration II	nits (ng/L or mg/	kg dry weight):		UG/L		
7440-70-2       Calcium       129000       F 7 P         7439-95-4       Magnesium       28000       F 7 P         7440-23-5       Sodium       67900       F 7 P	CAS No.       Analyse       State of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the contro			Concentration of	ircs (ag/ ir or ing/					<del>-</del>
7439-95-4   Magnesium   28000     E J   P	7439-95-4   Magnesium   28000   EJ   P			CAS No.	Analyte	Concentration	С	Q	М	
7439-95-4   Magnesium   28000   FJ   P	7439-95-4 Magnesium 28000   F			7440-70-2	Calcium	129000		FJ	P	
					Magnesium	28000		<b>F</b> J	P	
	7440-09-7   Potassium   1960   B   P			7440-23-5	Sodium	67900	1	<b>t</b>	P	
7440-09-7   Potassium   1960   B   P				7440-09-7	Potassium	1960	В		P	

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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### INORGANIC ANALYSES DATA SHEET

TS40039	

					j		1340039
Lab Name: <u>TestA</u>	merica Burlington	Contrac	t: <u>29000</u>				
Lab Code: STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL481
Matrix (soil/wate:	r): WATER		Lab Sample ID:		80716	3	
Level (low/med):	LOW		Date Received:		09/23	/09	
% Solids: 0.0							
	Concentration Un:	its (ug/L or mg/	kg dry weight):		UG/L		_
	CAS No.	Analyte	Concentration	С	Q	М	
	<del></del>						1

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	150000		車づ	P
7439-95-4	Magnesium	29300		E J	P
7440-23-5	Sodium	65500		E 3	P
7440-09-7	Potassium	2010	В		P

Color Before: colorless Clarity Before: clear Texture:	
Color After: colorless Clarity After: clear Artifacts:	
Comments:	

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

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11111	OPERT LIE	110.	
	TS40040		

Lab Name: TestAme	rica Burlington	Contra	ct: 29000		<b>_</b>		<del></del>
Lab Code: STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL481
Matrix (soil/water)	WATER		Lab Sample ID:		807169	<del>)</del>	
Level (low/med):	LOW		Date Received:		09/23/	/09	
% Solids: 0.0	<del></del>						
	Concentration Un	uits (ug/L or mg	/kg dry weight):		UG/L		
	CAS No.	Analyte	Concentration	С	Q	М	]

Calcium

Sodium

Magnesium

Potassium

114000

23200

63400

1770

В

7440-70-2

7439-95-4

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
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### INORGANIC ANALYSES DATA SHEET

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Lab Name:	TestAmer	ica Burlington		Contract:	29000	<u></u>	
Lab Code:	STLV	Case No.:	KZOO	SAS No.:		SDG No.:	KAL481
Matrix (soi	l/water):	WATER		Lab	Sample ID:	807170	
Level (low/	med):	LOW		Date	e Received:	09/23/09	
% Solids:	0.0	-					
		Concentration Un	its (ug/	L or mg/kg dr	y weight):	UG/L	

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	87400		111	P
7439-95-4	Magnesium	23000		E-T	P
7440-23-5	Sodium	76500	l	IR T	P
7440-09-7	Potassium	2200	В		P

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
	-			
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#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TS400	143	

				1540045
Lab Name:	TestAmer	ica Burlington	Contract: 29000	
Lab Code:	STLV	Case No.: KZOO	SAS No.:	SDG No.: KAL481
Matrix (soi	l/water):	WATER	Lab Sample ID:	807422
Level (low/	med):	LOW	Date Received:	09/24/09
% Solids:	0.0	<del>-</del>		
		Concentration Units (ug,	/L or mg/kg dry weight):	UG/L

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	98600	1-	ET	P
7439-95-4	Magnesium	23300	Ī	ET	P
7440-23-5	Sodium	24100	1	IE J	P
7440-09-7	Potassium	2590	lB	1	l D

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

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Lab Name:	TestAmer:	ica Burlington	Contrac	et: 29000					
Lab Code:	STLV	Case No.:	KZOO SAS	No.:		SDG No	.:	KAL481	-
Matrix (soil	l/water):	WATER		Lab Sample ID:		807423	3		
Level (low/r	med):	LOW		Date Received:		09/24/	/09		
% Solids:	0.0								
		Concentration Un	its (ug/L or mg/	kg dry weight):		UG/L		_	
		CAS No.	Analyte	Concentration	С	Q	М		
		7440-70-2	Calcium	105000		<b>\$</b>	P	! ` <b> </b>	

24900

53800

2020

Magnesium

Potassium

Sodium

7439-95-4

7440-23-5

7440-09-7

Color Before:	colorless	Clarity Before:	clear	Texture:
Color After:	colorless	Clarity After:	clear	Artifacts:
Comments:				
-				

#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

							1540043
Lab Name:	TestAmer	ica Burlington	Contra	ct: 29000		<u> </u>	
Lab Code:	STLV	Case No.:	KZOO SAS	3 No.:		SDG No.	KAL481
Matrix (soi	l/water):	WATER		Lab Sample ID:	5	807424	
Level (low/	med):	LOW		Date Received:	(	09/24/0	9
% Solids:	0.0						
4 SOTIUS:	0.0	_					
		Concentration Ur	nits (ug/L or mg	/kg dry weight):		UG/L	
		CAS No.	Analyte	Concentration	С	Q	М
		7440-70-2	Calcium	103000		ej İ	P
		7439-95-4	Magnesium	24500		<b>E</b> J	P
		7440-23-5	Sodium	53200		<u> </u>	P
		7440-09-7	Potassium	2060	B		P

clear

clear

Texture:

Artifacts:

Clarity Before:

Clarity After:

Color Before: colorless

colorless

Color After:

Comments:

#### INORGANIC ANALYSES DATA SHEET

Lab Name:	TestAmeri	.ca Burlington	n Contra	et: 29000	
Lab Code:	STLV	Case No.:	KZOO SAS	No.:	SDG No.: KAL481
Matrix (soi	.l/water):	WATER		Lab Sample ID:	807425
Level (low/	med):	LOW		Date Received:	09/24/09
% Solids:	0.0				
		Concentration 1	Units (ug/L or mg,	/kg dry weight):	UG/L
		CAS No.	Analyte	Concentration	C Q M
		7440-70-2	Calcium	160000	P P
		7439-95-4	Magnesium	22900	E3 P
		7440-23-5	Sodium	58300	E J P
		7440-09-7	Potassium	1350	B   P
Color Be	famo, gol	orless (	Clarity Before:	clear	Texture:
Color Af	ter: col		Clarity After:	clear	Artifacts:
			<b>-</b> • • •	<del></del>	
Comments	s:				

### INORGANIC ANALYSES DATA SHEET

					[			
Lab Name:	TestAmer	ica Burlington	Con	ntract: 29000				
Lab Code:	STLV	Case No.:	KZOO	SAS No.:	_ SDG	No.:	KAL481	
Matrix (soi	1/water):	WATER		Lab Sample ID:	8074	126		
Level (low/	med):	LOW		Date Received:	09/2	24/09		
% Solids:	0.0							
,		- Concentration U	Inits (ug/L or	r mg/kg dry weight):	UG/	<u>'L</u>	_	
		CAS No.	Analyte	Concentration	C Q	М		
							-	
		7440-70-2	Calcium	159000	E J	P	<u> </u>	
		7439-95-4	Magnesium	22900	TE J	P P	-	
		7440-23-5	Sodium	58300     1310	<b>  E</b>	P   P	-	
		7440-09-7	Potassium	1310	<u> </u>	<u> </u>	_!	
Color Be	fore: co	olorless	Clarity Before	e: clear	Textu	re:		
Color Af	iter: cc	olorless	Clarity After:	: clear	Artif	acts:	4	
Comments	;:							
	<del></del>						<del>_</del> _	

### INORGANIC ANALYSES DATA SHEET

TS40048	***************************************
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Lab Name:	TestAmer	ica Burlington	····	Contract:	29000		
Lab Code:	STLV	Case No.:	KZOO	SAS No.:		SDG No.:	KAL481
Matrix (soil	L/water):	WATER		Lab	Sample ID:	807427	
Level (low/m	med):	LOW		Dat	e Received:	09/24/09	
% Solids:	0.0	-					
		Concentration Un	its (ng/T	or ma/ka dr	weight):	IIC/T	

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	93200		<b>E</b> -5	P
7439-95-4	Magnesium	21900		再了	P
7440-23-5	Sodium	67000		B	P
7440-09-7	Potassium	1770	В	<u> </u>	P

Color Before:	colorless	Clarity Before:	clear	Texture:	And the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					

Lab Name: <u>Test</u> Lab Code: <u>STLV</u> Matrix (soil/wate	America Burlingtor  Case No.:						EPA SAMPLE NO.
Lab Code: STLV							TS40049
	Case No.:	Contra	act: 29000			-	
Matrix (soil/wate	, <del></del>	KZOO SA	S No.:		SDG No	.:	KAL481
	er): WATER		Lab Sample ID:		80764	4	
Level (low/med):	LOW		Date Received:		09/25,	/09	
% Solids: 0.0							
general Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual Annual A							
	Concentration U	nits (ug/L or mo	g/kg dry weight):		UG/L		_
	CAS No.	Analyte	Concentration	С	Q	м	
	7440-70-2	Calcium	107000	1	Ł J	P	
	7439-95-4	Magnesium	26900		EJ	P	
	7440-23-5	Sodium	74400	;	EJ	P	
	7440-09-7	Potassium	2680	B		P	]

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	
Comments:					
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#### INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: TestAmerica Burlington Contract: 29000

% Solids:

0.0

Matrix (soil/water): WATER Lab Sample ID: 807645

Level (low/med): LOW Date Received: 09/25/09

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	С	Q	М
7440-70-2	Calcium	92100		B	P
7439-95-4	Magnesium	22100		IE J	P
7440-23-5	Sodium	41000	Π	E -7	P
7440-09-7	Potassium	1180	В	ľ	P

Color Before:	colorless	Clarity Before:	clear	Texture:	
Color After:	colorless	Clarity After:	clear	Artifacts:	Petrolecular
Comments:					

### **WET CHEMISTRY**

### Sample Report Summary

Client Sample No.

TS40034

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807163

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	811	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	13.0	
5310	Organic Carbon, Total	09/24/09	BLKTO092409A	mg/L	1	1.0	7.3	
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				in				

Printed on: 10/16/09 10:41 AM

### **WET CHEMISTRY**

## Sample Report Summary

Client Sample No.

TS40035

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807164

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

Backed	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
Method 2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	671	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	14.0	
5310	Organic Carbon, Total	09/24/09	BLKTO092409A	mg/L	1	1.0	5.4	
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Printed on: 10/16/09 10:41 AM

### **WET CHEMISTRY**

### **Sample Report Summary**

Client Sample No.

TS40036

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807165

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKD\$092809A	mg/L	1	5.0	637	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	8.9	
5310	Organic Carbon, Total	09/24/09	BLKT0092409A	mg/L	1	1.0	2.7	
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Printed on: 10/16/09 10:41 AM

## **Sample Report Summary**

Client Sample No.
TS40037

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807166

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

	Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
	2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	664	
	2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	13.8	
	5310	Organic Carbon, Total	09/24/09	BLKTO092409A	mg/L	1	1.0	3.9	
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### **Sample Report Summary**

Client Sample No.

TS40038

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807167

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

	Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.	
	2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	662		
	2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	15.8		
	5310	Organic Carbon, Total	09/24/09	BLKT0092409A	mg/L	1	1.0	4.3		
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### Sample Report Summary

Client Sample No.

TS40039

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807168

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	739	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	27.7	
5310	Organic Carbon, Total	09/24/09	BLKTO092409A	mg/L	1	1.0	5.6	
			-					

### **Sample Report Summary**

Client Sample No.
TS40040

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807169

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	583	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	17.1	
5310	Organic Carbon, Total	09/24/09	BLKT0092409A	mg/L	1	1.0	5.1	

### Sample Report Summary

Client Sample No.

TS40041

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807170

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

	Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
-	2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	526	
	2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	5.8	
	5310	Organic Carbon, Total	09/24/09	BLKTO092409A	mg/L	1	1.0	2.1	
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### **Sample Report Summary**

Client Sample No.

T240042

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807171

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	583	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	6.2	
5310	Organic Carbon, Total	09/24/09	BLKTO092409A	mg/L	1	1.0	5.2	
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## Sample Report Summary

Client Sample No.

TS31006

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807172

Matrix: WATER

Client: BBLKAL

Date Received: 09/23/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	391	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	2.8	
5310	Organic Carbon, Total	09/24/09	BLKTO092409A	mg/L	1	1.0	4.7	

## Sample Report Summary

Client Sample No.

TS40043

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807422

Matrix: WATER

Client: BBLKAL

Date Received: 09/24/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	437	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	5.2	
5310	Organic Carbon, Total	09/25/09	BLKT0092509A	mg/L	1	1.0	7.8	
				in				

## Sample Report Summary

Client Sample No.

TS40044

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807423

Matrix: WATER

Client: BBLKAL

Date Received: 09/24/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	535	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	13.5	
5310	Organic Carbon, Total	09/25/09	BLKTO092509A	mg/L	1	1.0	3.7	
			:					

### **Sample Report Summary**

Client Sample No.

TS40045

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807424

Matrix: WATER

Client: BBLKAL

Date Received: 09/24/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	528	Sumi
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	13.5	
5310	Organic Carbon, Total	09/25/09	BLKTO092509A	mg/L	1	1.0	4.1	
		1	1	1	1	1		i

## Sample Report Summary

Client Sample No.

TS40046

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807425

Matrix: WATER

Client: BBLKAL

Date Received: 09/24/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	754	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	19.9	
5310	Organic Carbon, Total	09/25/09	BLKTO092509A	mg/L	1	1.0	12.2	

### Sample Report Summary

Client Sample No.
TS40047

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807426

Matrix: WATER

Client: BBLKAL

Date Received: 09/24/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	754	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	20.8	
5310	Organic Carbon, Total	09/25/09	BLKTO092509A	mg/L	1	1.0	11.9	
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## Sample Report Summary

Client Sample No.

TS40048

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807427

Matrix: WATER

Client: BBLKAL

Date Received: 09/24/09

% Solids:

Meth	and T	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
254		Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	508	
254	ľ	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	14.0	
531	0	Organic Carbon, Total	09/25/09	BLKTO092509A	mg/L	1	1.0	2.5	
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## **Sample Report Summary**

Client Sample No.

TS40049

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807644

Matrix: WATER

Client: BBLKAL

Date Received: 09/25/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL_	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	574	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	11.0	
5310	Organic Carbon, Total	09/29/09	BLKT0092909B	mg/L	1	1.0	2.5	
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### **Sample Report Summary**

Client Sample No.

TS40050

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807645

Matrix: WATER

Client: BBLKAL

Date Received: 09/25/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	446	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	12.9	
5310	Organic Carbon, Total	09/29/09	BLKT0092909B	mg/L	1	1.0	3.3	
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## Sample Report Summary

Client Sample No.

TS31007

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807646

Matrix: WATER

Client: BBLKAL

Date Received: 09/25/09

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
2540	Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	396	
2540	Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	4.6	
5310	Organic Carbon, Total	09/29/09	BLKTO092909B	mg/L	1	1.0	4.0	
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### Sample Report Summary

Client Sample No.
TS31008

Lab Name: TestAmerica Burlington

Contract: 64539.0.005

SDG No.: KAL481

Lab Code: TALVT

Case No.: KZOO

Lab Sample ID: 807647

Matrix: WATER

Client: BBLKAL

Date Received: 09/25/09

% Solids:

Parameter	Analytical Run Date	Analytical Batch	Units	DF.	RL	Conc.	Qual
Total Dissolved Solids	09/28/09	BLKDS092809A	mg/L	1	5.0	407	
Total Suspended Solids	09/28/09	BLKTS092809A	mg/L	0	0.50	4.5	
Organic Carbon, Total	09/29/09	BLKTO092909B	mg/L	1	1.0	4.2	
	Total Dissolved Solids  Total Suspended Solids	Total Dissolved Solids 09/28/09  Total Suspended Solids 09/28/09	Total Dissolved Solids         09/28/09         BLKDS092809A           Total Suspended Solids         09/28/09         BLKTS092809A	Total Dissolved Solids         09/28/09         BLKDS092809A         mg/L           Total Suspended Solids         09/28/09         BLKTS092809A         mg/L	Total Dissolved Solids         09/28/09         BLKDS092809A         mg/L         1           Total Suspended Solids         09/28/09         BLKTS092809A         mg/L         0	Total Dissolved Solids         09/28/09         BLKDS092809A         mg/L         1         5.0           Total Suspended Solids         09/28/09         BLKTS092809A         mg/L         0         0.50	Total Dissolved Solids         09/28/09         BLKDS092809A         mg/L         1         5.0         407           Total Suspended Solids         09/28/09         BLKTS092809A         mg/L         0         0.50         4.5

Client Sample ID:TS40034 Lab Sample ID: 500-21398-1 Job Number:

500-21398-1

Date Sampled: 09/21/2009 Date Received:09/29/2009

1503 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	09/30/2009 1335	
Chloride	91	mg/L	0.92	4.0	20
Sulfate	150	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	09/30/2009 1518	
Alkalinity	370	mg/L	1.1	5.0	1.0

Client Sample ID:TS40035 Lab Sample ID: 500-21398-2

Job Number: 500-21398-1

Date Sampled: 09/21/2009 1545
Date Received: 09/29/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride Sulfate	130 57	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 0933 4.0 4.0	20 20
Method: 310.1 Alkalinity	360	Date mg/L	Analyzed: 1.1	09/30/2009 1526 5.0	1.0

Client Sample ID:TS40036 Lab Sample ID: 500-21398-3

Job Number: 500-21398-1

Date Sampled: 09/21/2009 1718 Date Received:09/29/2009 1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Sulfate	57	Date mg/L	Analyzed: 1.3	10/01/2009 0948 4.0	20
Method: 300.0 Chloride	160	Date mg/L	Analyzed: 2.3	10/02/2009 1458 10	50
Method: 310.1 Alkalinity	280	Date mg/L	Analyzed: 1.1	09/30/2009 1533 5.0	1.0

Client Sample ID:TS40037 Lab Sample ID: 500-21398-4 Date Sampled: 09/22/2009 1024 Date Received: 09/29/2009 1030

Job Number: 500-21398-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	10/01/2009 1002	
Chloride	110	mg/L	0.92	4.0	20
Sulfate	81	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	09/30/2009 1542	
Alkalinity	330	mg/L	1.1	5.0	1.0

Client Sample ID:TS40038 Lab Sample ID: 500-21398-5

Job Number: 500-21398-1

Date Sampled: 09/22/2009 0935 Date Received:09/29/2009 1030

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method: 3 Chloride Sulfate	300.0	140 88	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1016 4.0 4.0	20 20
Method: 3 Alkalinity	310.1	300	Date mg/L	Analyzed: 1.1	09/30/2009 1549 5.0	1.0

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Job Number: 500-21398-1

Client Sample ID:TS40039 Lab Sample ID: 500-21398-6 Date Sampled: 09/22/2009

1140

Date Received:09/29/2009

1030

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method: Chloride Sulfate	300.0	120 130	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1031 4.0 4.0	20 20
<b>Method:</b> Alkalinity	310.1	320	Date mg/L	Analyzed: 1.1	09/30/2009 1611 5.0	1.0

Job Number:

500-21398-1

Client Sample ID:TS40040 Lab Sample ID: 500-21398-7 Date Sampled: 09/22/2009

Date Received:09/29/2009

1146 1030

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method: Chloride Sulfate	300.0	120 80	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1045 4.0 4.0	20 20
Method: Alkalinity	310.1	270	Date mg/L	Analyzed: 1.1	09/30/2009 1618 5.0	1.0

Client Sample ID:TS40041 Lab Sample ID: 500-21398-8 Date Sampled: 09/22/2009

1449 1030 500-21398-1

Job Number:

Date Received:09/29/2009

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	10/01/2009 1059	
Chloride	130	mg/L	0.92	4.0	20
Sulfate	28	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	09/30/2009 1626	
Alkalinity	250	mg/L	1.1	5.0	1.0

Client Sample ID:TS40042 Lab Sample ID: 500-21398-9

Job Number: 500-21398-1

Date Sampled: 09/22/2009

1455 1030

Date Received:09/29/2009

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method:	300.0	0.4		Analyzed:		00
Chloride Sulfate		91 86	mg/L mg/L	0.92 1.3	4.0 4.0	20 20
Method: Alkalinity	310.1	270	Date mg/L	Analyzed: 1.1	09/30/2009 1634	1.0

Client Sample ID:TS31006 Lab Sample ID: 500-21398-10

1430

500-21398-1

Job Number:

Date Sampled: 09/21/2009 Date Received:09/29/2009

1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride Sulfate	65 33	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1156 4.0 4.0	20 20
Method: 310.1 Alkalinity	220	Date mg/L	Analyzed: 1.1	09/30/2009 1641 5.0	1.0

0933

500-21398-1

Job Number:

Client Sample ID:TS40043 Lab Sample ID: 500-21398-11 Date Sampled: 09/23/2009 Date Received: 09/29/2009

1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	10/01/2009 1239	
Chloride	47	mg/L	0.92	4.0	20
Sulfate	34	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	09/30/2009 1818	
Alkalinity	290	mg/L	1.1	5.0	1.0

Client Sample ID:TS40044 Lab Sample ID: 500-21398-12 Job Number: 500-21398-1

Date Sampled: 09/23/2009 0945 Date Received:09/29/2009 1030

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method:</b> Chloride Sulfate	300.0	82 62	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1322 4.0 4.0	20 20
Method: Alkalinity	310.1	270	Date mg/L	Analyzed: 1.1	09/30/2009 1656 5.0	1.0

Client Sample ID:TS40045 Lab Sample ID: 500-21398-13 Date Sampled: 09/23/2009

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500-21398-1

Date Received:09/29/2009

1030

Job Number:

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method: Chloride Sulfate	300.0	83 63	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1337 4.0 4.0	20 20
<b>Method:</b> Alkalinity	310.1	280	Date mg/L	Analyzed: 1.1	09/30/2009 1704 5.0	1.0

Job Number: 500-21398-1

Client Sample ID:TS40046 Lab Sample ID: 500-21398-14 Date Sampled: 09/23/2009

1148 1030

Date Received:09/29/2009

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	10/01/2009 1351	
Chloride	110	mg/L	0.92	4.0	20
Sulfate	140	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	09/30/2009 1712	
Alkalinity	310	mg/L	1.1	5.0	1.0

Client Sample ID:TS40047 Lab Sample ID: 500-21398-15 Job Number:

500-21398-1

Date Sampled: 09/23/2009

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Date Received:09/29/2009

1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	10/01/2009 1405	
Chloride	110	mg/L	0.92	4.0	20
Sulfate	140	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	09/30/2009 1719	
Alkalinity	310	mg/L	1.1	5.0	1.0

Client Sample ID:TS40048 Lab Sample ID: 500-21398-16 Date Sampled: 09/23/2009

1250

Job Number: 500-21398-1

Date Received:09/29/2009

1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride Sulfate	120 27	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1448 4.0 4.0	20 20
Method: 310.1 Alkalinity	270	Date mg/L	Analyzed: 1.1	09/30/2009 1741 5.0	1.0

Job Number:

500-21398-1

Client Sample ID:TS40049 Lab Sample ID: 500-21398-17 Date Sampled: 09/24/2009

1040

Date Received:09/29/2009

1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0 Chloride Sulfate	130 55	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1503 4.0 4.0	20 20
Method: 310.1 Alkalinity	270	Date mg/L	Analyzed: 1.1	09/30/2009 1748 5.0	1.0

Client Sample ID:TS40050 Lab Sample ID: 500-21398-18 Date Sampled: 09/24/2009

1141

500-21398-1

Job Number:

Date Received:09/29/2009

1030

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 300.0		Date	Analyzed:	10/01/2009 1517	
Chloride	66	mg/L	0.92	4.0	20
Sulfate	50	mg/L	1.3	4.0	20
Method: 310.1		Date	Analyzed:	09/30/2009 1756	
Alkalinity	250	mg/L	1.1	5.0	1.0

Job Number:

500-21398-1

Client Sample ID:TS31007 Lab Sample ID: 500-21398-19 Date Sampled: 09/24/2009

1400

Date Received:09/29/2009

1030

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method: Chloride Sulfate	300.0	66 35	Date mg/L mg/L	Analyzed: 0.92 1.3	10/01/2009 1531 4.0 4.0	20 20
<b>Method:</b> Alkalinity	310.1	230	Date mg/L	Analyzed: 1.1	09/30/2009 1834 5.0	1.0

Mr. Kirk F Young TestAmerica Laboratories, Inc. 30 Community Drive Suite 11 South Burlington, VT 05403

Job Number:

500-21398-1

Client Sample ID:TS31008 Lab Sample ID: 500-21398-20 Date Sampled: 09/24/2009

0000

Date Received:09/29/2009

1030

Client Matrix: Water

Analyte		Result/Qualifier	Unit	MDL	RL	Dilution
Method:	300.0		Date	Analyzed:	10/01/2009 1546	
Chloride		61	mg/L	0.92	4.0	20
Sulfate		32	mg/L	1.3	4.0	20
Method:	310.1		Date	Analyzed:	09/30/2009 1841	
Alkalinity		230	mg/L	1.1	5.0	1.0



#### CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

COC ID:	092409.1

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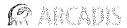
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## CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page \_\_\_ of \_\_\_

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Contact & Company Name:  ERIC HRITSUK Address:	Telephone:	1937 x24	Preservative Filtered (√)	E	A	E	E	E	Ć.		Keys Preservation Key: Container Information Key: A. H.SO. 1. 40 ml Vial B. HCL 2. 1 L Amber
Address:			# of Containers	2	2	1	1		1		C. HNO <sub>3</sub> 3. 250 ml Plastic D. NaOH 4, 500 ml Plastic
ERIC HRITSUK  Address:  30 W. MONROE ST  City State Zip	3/2 332 H <sup>1</sup> E-mail Address:	134	Container Information	2		3	9	3	3		E. None 5. Encore F. Other: 6, 2 oz. Glass
City State Zip	1			PAF	KAMET	ER ANA	LYSIS	S MEIH	<u> </u>		7. 4 oz. Glass G. Other: 8. 8 oz. Glass
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TS4035	9/21/09 1545	VW	X	X	X	X	X	X			
T540036	9/21/09/1718	VW	X	X	X	X	X	X			
T540037	7/22/09 1024	VW	X	X	X	X	X	X			
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T540041	1/22/09 1449	VW	X	X	<u>X</u>		X	X			
T540042	9/22/09 1455	VW	X	X	X	X	$X_{-}$	X			<u> </u>
TS31006	9/21/09 1430	VW	X		Χ	X	X	$X_{-}$		MS	MSP
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#### CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

eCOC ID:	092409.1

Contact & Company Name:	Telephone:			I	Ε	A	E	E	Е	С			KEYS	
<b>6</b>	312-332-4937			Preservative		^						Preservation Key:		Information Key:
Eric Hritsuk Address:	512-332-4937 Fax:			# of Containers	2	2	1	1	1	1		A. H <sub>2</sub> SO <sub>4</sub>	1. 40 mL \	/OA
ន្ត[	312-332-4434			Container	2	1	3	9	3	3		B. HCL C. NaOH	2. 1 L Am 3. 125 m	
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#### **ARCADIS**

#### **Attachment 5**

Analytical Reports for MDEQ Split Samples

#### **ARCADIS**

#### Attachment 5A

Analytical Reports for MDEQ Split Samples – Quarter 2 – June/July 2009

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NORTHEAST A 2190 Technology Dri Telephone (518) 346 www.nealab.com	enectady Fax (5	ly, NY 12308 LRF#				006P	<u> &gt;</u>    	•	RETURN TO CLIENT  DISPOSAL BY NORTHEAST ANALYTICAL  ARCHIVAL BY NORTHEAST ANALYTICAL  Additional charges incurred for disposal (if hazardous) or archival. Call for details.											
CLIENT (REPORTS TO BE SENT TO):			PROJECT#/PROJECT NAME:					ENT			R ANALYSIS AND METHOD NUMBER REQUESTED									
MDEQ/CPM			Plainu	el Dans	HI TCLA		PRESERVATIVE CODE										PRESERVATIVE KI	ΕY		
PROJECT MANAGER:							BO	TTLE TY	PE:								0 - NONE			
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SAMPLE ID	DATE	TIME	MATRIX	COMP	(NEA USE C		<b>-</b>	<del></del>	$\leftarrow$	$\overline{}$	-		/	<del>                                     </del>	-	KEIVI	AKNO.	_		
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P6-2-03	4/29/09	1400	mater	Cran	AM 09 10			X												
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PGW-MW10-01	6/30/08	1155	water	طمري	AM1991	<u> 28                                   </u>	1	×												
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## CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



**CUSTOMER ID:** PGW-MW12-01 **NEA ID:** AM09125 **NEA LRF:** 09070006-01

**MATRIX:** WATER **DATE SAMPLED:** 06/29/2009 **TIME:** 14:00

**DATE RECEIVED:** 7/1/2009 **TIME:** 10:08 **PROJECT:** PTCRA- PLAINWELL INVESTIGATION

**SAMPLED BY:** R. MULCRONE **LOCATION:** PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

				DATE		
PARAMETER PERFORMED	RESULTS	PQL	UNITS	ANALYZED	FLAGS	
SW-846 Method 8082						
Aroclor 1016	ND	0.0250	ug/L	07/02/2009	U	
Aroclor 1221	ND	0.0250	ug/L	07/02/2009	U	
Aroclor 1232	ND	0.0250	ug/L	07/02/2009	U	
Aroclor 1242	ND	0.0250	ug/L	07/02/2009	U	
Aroclor 1248	ND	0.0250	ug/L	07/02/2009	U	
Aroclor 1254	ND	0.0250	ug/L	07/02/2009	U	
Aroclor 1260	ND	0.0250	ug/L	07/02/2009	U	
Total PCB Amount	ND				U	

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were several non-target peaks.

**AUTHORIZED SIGNATURE:** 

Robert E. Wagner Laboratory Director

William A. Kotas Sr. Laboratory Representative



## CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



 CUSTOMER ID:
 PGW-MW12-02
 NEA ID:
 AM09126
 NEA LRF:
 09070006-02

 MATRIX:
 WATER
 DATE SAMPLED:
 06/29/2009
 TIME:
 14:00

DATE RECEIVED: 7/1/2009 TIME: 10:08 PROJECT: PTCRA-PLAINWELL INVESTIGATION

**SAMPLED BY:** R. MULCRONE **LOCATION:** PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

				DATE	
PARAMETER PERFORMED	RESULTS	PQL	UNITS	ANALYZED	FLAGS
SW-846 Method 8082					
Aroclor 1016	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1221	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1232	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1242	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1248	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1254	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1260	ND	0.0250	ug/L	07/02/2009	U
Total PCB Amount	ND				U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the POL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were few non-target peaks.

**AUTHORIZED SIGNATURE:** 



## CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



 CUSTOMER ID:
 PGW-MW12-02
 NEA ID:
 AM09127
 NEA LRF:
 09070006-03

 MATRIX:
 WATER
 DATE SAMPLED:
 06/29/2009
 TIME:
 14:01

**DATE RECEIVED:** 7/1/2009 **TIME:** 10:08 **PROJECT:** PTCRA- PLAINWELL INVESTIGATION

SAMPLED BY: R. MULCRONE LOCATION: PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

	DATE								
PARAMETER PERFORMED	RESULTS	PQL	UNITS	ANALYZED	FLAGS				
SW-846 Method 8082									
Aroclor 1016	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1221	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1232	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1242	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1248	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1254	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1260	ND	0.0250	ug/L	07/02/2009	U				
Total PCB Amount	ND				U				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the POL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were few non-target peaks.

**AUTHORIZED SIGNATURE:** 

Robert E. Wagner Laboratory Director

William A. Kotas Sr. Laboratory Representative



# CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



**CUSTOMER ID:** PGW-MW10-01 **NEA ID:** AM09128 **NEA LRF:** 09070006-04

**MATRIX:** WATER **DATE SAMPLED:** 06/30/2009 **TIME:** 11:55

**DATE RECEIVED:** 7/1/2009 **TIME:** 10:08 **PROJECT:** PTCRA- PLAINWELL INVESTIGATION

**SAMPLED BY:** R. MULCRONE **LOCATION:** PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

	DATE								
PARAMETER PERFORMED	RESULTS	PQL	UNITS	ANALYZED	FLAGS				
SW-846 Method 8082									
Aroclor 1016	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1221	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1232	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1242	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1248	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1254	ND	0.0250	ug/L	07/02/2009	U				
Aroclor 1260	ND	0.0250	ug/L	07/02/2009	U				
Total PCB Amount	ND				U				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were several non-target peaks.

**AUTHORIZED SIGNATURE:** 

William A. Kotas Sr. Laboratory Representative

Robert E. Wagner Laboratory Director

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# CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



**CUSTOMER ID:** PGW-MW10-03 **NEA ID:** AM09129 **NEA LRF:** 09070006-05

**MATRIX:** WATER **DATE SAMPLED:** 06/30/2009 **TIME:** 11:55

**DATE RECEIVED:** 7/1/2009 **TIME:** 10:08 **PROJECT:** PTCRA- PLAINWELL INVESTIGATION

SAMPLED BY: R. MULCRONE LOCATION: PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	POL	UNITS	DATE ANALYZED	FLAGS
SW-846 Method 8082	ILSCLIS	TQL	CIVID		12105
Aroclor 1016	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1221	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1232	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1242	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1248	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1254	ND	0.0250	ug/L	07/02/2009	U
Aroclor 1260	ND	0.0250	ug/L	07/02/2009	U
Total PCB Amount	ND		_		U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were several non-target peaks.

**AUTHORIZED SIGNATURE:** 

Robert E. Wagner Laboratory Director

William A. Kotas Sr. Laboratory Representative

#### **ARCADIS**

#### **Attachment 5B**

Analytical Reports for MDEQ Split Samples – Quarter 3 – September 2009

CHAIN OF (	CUSTO	DY RE	CORD		PAGE .	<u> </u>	F! 、			DISPO	SAL RE	QUIRE	MENT	S: (To b	e filled in b	y Client)
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2190 Technology Dri	ve, Sche	nectady	, NY 123	808	LRF#	01111111111111111111111111111111111111			-		$\smile$				AST ANALY	
Telephone (518) 346	-4592	Fax (51	8) 381-6 on @neala	055						Addit	ional char	ges incurr	ed for disp	osal (if ha	zardous) or arch	ival. Call for details.
www.nealab.com		mormau	PROJECT#PRO			090100111	ι		ENT	ER ANA	LYSIS A	ND ME	THOD N	UMBER	REQUESTE	D
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Todd King/Yolano	da Wal	ton	0	4.1	•		ВО	TTLE SI	ZE:							1 - HCL
			Plain	uell, MI					7	7	/	-7	/			2 - HNO3
313-963-1313							_  ა						/	/		/ 3 - H2SO4
SAMPLED BY: (Please Print)			REQUIRED TUR	N AROUND TH	NE:		CONTAINERS		<i>/</i>	/	/	/		/	/ /	4 - NaOH
COM / Reviee M	Ulcrone		5TO	VED (15 110 FB)			-   ≰		1 3	7/			/			5 - Zn. Acetate
SAMPLING FIRM:				,	:		l 5		10	/ ,	/ ,	/	/ ,	/	/ /	6 - MeOH 7 - NaHSO4
COM			Fed			4:54 O-b	- j	/	10C4 (e. r.		/	/		/		7 - NaHSO4 8 - Other
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PDF EXCEL (.CSV)	E-MAIL ADDRE	33.				LAB	NUMBER	. /	<b>b</b> /		/		/	/		
FAXED RESULTS	FAX #:	•		GRAB/	SA	MPLE ID	=	1/2	*/			/	/	/		
SAMPLE ID	DATE	TIME	MATRIX	COMP	(NEA	USE ONLY)		/ ×							/ R	EMARKS:
PGW-MW6-01	7/01/09	1355	water	Qrab	AM	79194	3	$\times$							MS/m	5P
PGW-MW1-01	7/01/09	1510	water	grab	AM	09195	١	X							_	
P6W-MW3-01	7/01/09	1045	water	grab	AM	09196	\_	×								
,				O	<b>'</b>			` `								
															-	
AMBIENT OR CHILLED:	TEMP: 3, 2	عد	COC TAPE:	Y (N	2		PROPER	LY PRESE	RVED: (	Y)	N		OTHER N	OTES:		
RECEIVED BROKEN OR LEAKING:	Y (N	)	COC DISCREPA	NCIES:	Y (N	<i>)</i>	RECVD V	V/I HOLDIN		<u>(Y)</u>	N	DEL INGL	ISHED BY		<u> </u>	RECEIVED BY
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67/01/09 05451	'M L	10101	10100								<u> </u>					

<sup>\*</sup> CLP LIKE DATA PACKAGE ADDITIONAL COST



# CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



**CUSTOMER ID:** PGW-MW6-01 **NEA ID:** AM09194 **NEA LRF:** 09070017-01

**MATRIX:** WATER **DATE SAMPLED:** 07/01/2009 **TIME:** 13:55

**DATE RECEIVED:** 7/2/2009 **TIME:** 10:03 **PROJECT:** PTCRA- PLAINWELL INVESTIGATION

**SAMPLED BY:** R. MULCRONE **LOCATION:** PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

	DATE								
PARAMETER PERFORMED	RESULTS	PQL	UNITS	ANALYZED	FLAGS				
SW-846 Method 8082									
Aroclor 1016	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1221	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1232	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1242	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1248	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1254	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1260	ND	0.0250	ug/L	07/04/2009	U				
Total PCB Amount	ND				U				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were several non-target peaks.

**AUTHORIZED SIGNATURE:** 



## CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



 CUSTOMER ID:
 PGW-MW1-01
 NEA ID:
 AM09195
 NEA LRF:
 09070017-02

 MATRIX:
 WATER
 DATE SAMPLED:
 07/01/2009
 TIME:
 15:10

**DATE RECEIVED:** 7/2/2009 **TIME:** 10:03 **PROJECT:** PTCRA- PLAINWELL INVESTIGATION

SAMPLED BY: R. MULCRONE LOCATION: PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

	DATE								
PARAMETER PERFORMED	RESULTS	PQL	UNITS	ANALYZED	FLAGS				
SW-846 Method 8082									
Aroclor 1016	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1221	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1232	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1242	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1248	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1254	ND	0.0250	ug/L	07/04/2009	U				
Aroclor 1260	ND	0.0250	ug/L	07/04/2009	U				
Total PCB Amount	ND				U				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the POL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were few non-target peaks.

**AUTHORIZED SIGNATURE:** 



# CAMP, DRESSER & MCKEE ONE WOODWARD AVE., SUITE 1500 DETROIT, MI 48226 CONTACT: TODD KING



 CUSTOMER ID:
 PGW-MW3-01
 NEA ID:
 AM09196
 NEA LRF:
 09070017-03

 MATRIX:
 WATER
 DATE SAMPLED:
 07/01/2009
 TIME:
 10:45

**DATE RECEIVED:** 7/2/2009 **TIME:** 10:03 **PROJECT:** PTCRA- PLAINWELL INVESTIGATION

SAMPLED BY: R. MULCRONE LOCATION: PLAINWELL, MI

CUSTOMER PO: N/A LAB ELAP#: 11078

				DATE			
PARAMETER PERFORMED	RESULTS	PQL	UNITS	ANALYZED	FLAGS		
SW-846 Method 8082							
Aroclor 1016	ND	0.0250	ug/L	07/04/2009	U		
Aroclor 1221	ND	0.0250	ug/L	07/04/2009	U		
Aroclor 1232	ND	0.0250	ug/L	07/04/2009	U		
Aroclor 1242	ND	0.0250	ug/L	07/04/2009	U		
Aroclor 1248	ND	0.0250	ug/L	07/04/2009	U		
Aroclor 1254	ND	0.0250	ug/L	07/04/2009	U		
Aroclor 1260	ND	0.0250	ug/L	07/04/2009	U		
Total PCB Amount	ND				U		

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the POL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were few non-target peaks.

**AUTHORIZED SIGNATURE:**